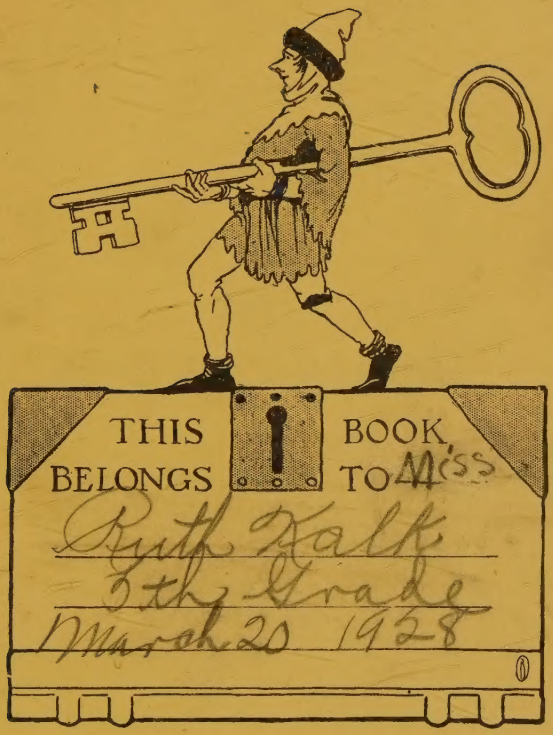
THE LINCOLN READERS

SIXTH READER

From Bob Ruesch's Aunt
Teacher
Medford Wis. (in the country)
Linda Ruesch Stinson


THIS BOOK
BELONGS TO Miss
Ruth Kalk
5th Grade
March 20 1928

THE
LINCOLN READERS

THE
LINCOLN READERS

Third Reader
Fourth Reader
Fifth Reader
Sixth Reader

Book Seven
Book Eight

THE LINCOLN READERS

SIXTH READER

BY

ISOBEL DAVIDSON

SUPERVISOR OF CITY GRADES
DEPARTMENT OF PUBLIC INSTRUCTION
STATE OF WISCONSIN

CHARLES J. ANDERSON

ASSISTANT STATE SUPERINTENDENT
DEPARTMENT OF PUBLIC INSTRUCTION
STATE OF WISCONSIN

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Illustrated by
BERNICE OEHLER

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INTRODUCTION

The Choice of the Name. School Readers have frequently borne the name of the authors or publishers. A less common practice is to name the series in honor of some great leader whose ideals the authors seek to embody in their books. By their choice, the authors of the Lincoln Readers aim to honor both the name of Lincoln and the method by which he made himself a leader of men. Lincoln taught himself, what few people have learned in schoolrooms, to get thought deftly and accurately from printed pages, and to think clearly and straight.

A New Reader to Meet New Needs. During the last two decades many new series of readers have been published. Some of these are excellent. Their subject matter is well adapted for the purposes intended; the mechanical aids have greatly facilitated the efforts of pupils in learning to read. During the same period, and especially during the last decade, the educational world has seen great advances in the scientific investigation of reading. The results of these investigations into the processes, purposes, and materials of the efficient teaching of reading compel teachers to follow new methods, adopt new purposes, and seek reading matter of a character not yet available in sufficient amount. The Lincoln Readers are planned with reference to these investigations and the practical problems of the classroom teacher.

The Objectives of Reading. The following formulation of the Objectives of Reading represents the combined judgments of recent scientific investigators of reading and thousands of classroom teachers. This formulation has governed the choice of the subject matter and the planning of the study helps found in the Lincoln Readers.

1. *Mastery of the Mechanics of Reading.* The mastery of the mechanics of reading includes (a) rapid and accurate word recognition; (b) the development of skill in different kinds of reading, as careful reading, cursory reading, and reading for purposes of consultation; and (c) the enlargement of the reading vocabulary so as to cover the requirements of all kinds of reading matter.

2. *Ability to Comprehend and Interpret.* Ability in comprehension and interpretation of reading matter includes the ability (a) to understand and assimilate rapidly and accurately the content of what is read; (b) to analyze what is read; (c) to select the points of importance and interest in reading matter; (d) to assume the author's point of view; and (e) to organize, retain, and apply the content of selections read to situations other than those presented in the matter read.

3. *The Development of General Culture.* The development of general culture includes (a) the cultivation of ability to enjoy what is read; (b) training in the further pursuance of thoughts presented or suggested by selections read; (c) an acquaintance with a wide variety of literature; and (d) practice in dealing with problems which arise from reading.

Means for Attaining the Objectives of Reading. In order to attain the Objectives of Reading, pupils must not only be provided with suitable reading matter, they must also be given specific training in the use of this matter. To show clearly how the Lincoln Readers provide these means, several references are here cited:

1. *The Development of Rapid and Accurate Reading* is provided for in all selections. Especial provision for such training is made in some selections. For example, in the use of the selection entitled, Our Pilgrim Fathers, for Grade III, pupils are required to work rapidly and at the same time with care in the rudimentary outline work demanded. Again, in the short selections, which set problems for the children to perform, there is a premium upon speed and accuracy, and

there is also an objective test of the pupil's accuracy. Speed without accuracy, assimilation, and retention would result in mere visualizing of words. These problems and the directions for games offer training not in mere visualizing, but in carrying out the directions set forth.

2. *The Ability to Comprehend and Interpret* is cultivated by means of selections which are read for a definite purpose and which provide tests to ascertain whether or not the purpose has been achieved. Many of the selections are opened with introductions which present problems that direct pupils to glean certain facts by reading. At the end are directions to test pupils' comprehension and to re-direct their reading until comprehension has been achieved.

Specific provision is made for training in *Accuracy*. Criticism has been waged against dependence solely on verbal reactions as tests of accuracy. In accordance with this criticism, tasks of an objective character have been set for pupils. These tests, as in the making of a Sun Dial, The Magic Penny, and other selections, compel the pupil to give objective, non-verbal evidence of the accuracy of his reading.

The Ability to Organize, Apply, and Reproduce is cultivated especially by questions and other directions for study. The pupils are trained in the rudiments of outlining, in getting the gist of paragraphs, in naming paragraphs, and in the organization of the content of selections, with reference to the knowledge which the readers already possess.

3. *The Development of General Culture* has not been overlooked. Various selections have been included in which the sole end is enjoyment and appreciation of new experiences. Here the pupil's purpose is at best unconscious; he reads a good tale of adventure or a funny story for the same reason that his father might read them. He usually has no problem to solve—no special end to gain. He finds an interesting story and reads it for the pleasure it gives him. This sort of reading widens his horizon, whets his appetite, and introduces him to the great realm of literature.

Informational and Testable Reading Selections. The selections contained in the Lincoln Readers are predominantly informational and testable and are designed as directly preparatory to the reading of such informational material as that met in history, geography, and other informational courses of the elementary school. In the reading selections for the lower intermediate grades, this informational material is often presented in story form and supplemented by non-factual details which are in keeping with the facts in order properly to meet children's natural interests. Great care has been taken to keep this supplementary matter as well as the facts themselves within the reading comprehension of the pupils for whom the selections are intended. Examples of selections which are correlated with work in geography and history appropriate for Grade III are Howard's First Map and the selections on pioneer life. In the later grades less of the story form is used, because pupils of those grades have reached the stage of development at which they are accustomed to read history, geography, and industrial matter in which this form is lacking. Throughout the series, however, the selections are directly related to the general school and home reading of children. In addition to offering training in all kinds of reading, and thus enabling the pupils to study their lessons effectively, this broad reading technique is designated to lead pupils to include in their home reading other matter than merely light fiction.

Seasonal Projects. The selections have been arranged according to season and to project, as shown on the project sheet following the table of contents.

The Lincoln Readers have been tested and graded by school use. The authors have used great care in the placement of each selection finally incorporated into the series. The plan of grading consisted of, first, the careful grading of the content and diction by the authors; and, second, the testing of pupils' interest in and comprehension of the selections.

This method of testing enables the authors to assure schools which adopt these readers that they are not thereby experimenting; instead, such schools are availing themselves of teaching material which has already been successfully used in public schools patronized by various population groups.

Sources of Material. Particular attention is called to the sources of the selections in this book. If children are expected to learn "the efficient use of books," they must have specific training for reading the various types of reading matter of which school and society make demand. Accordingly, the authors have deliberately chosen selections from the best examples of text-books, reference books, magazines for children, and other suitable publications.

Distribution of Reading Abilities.*

1. The ability (a) to read *quickly*, and (b) to comprehend *easily*,—pages 27, 193, 219, 280, 309.
2. The ability to locate *data* indicated by given questions, outline, etc.,—pages 38, 127, 217, 233, 242.
3. The ability to determine facts of *relative worth*, i.e. the main points in a paragraph, or part of a story, or the entire selection,—pages 5, 43, 169, 266.
4. The ability to organize material under main headings,—pages 78, 128, 151.
5. The ability to select facts for a definite purpose or end in view,—pages 49, 230, 272, 302.
6. The ability to reason from given data to other related facts. Prove correctness or incorrectness of inference,—pages 12, 82, 156, 188.
7. The ability to use dictionaries,—pages 139, 156, 198, 314.
8. The ability to use references,—pages 8, 34, 161, 175, 185.
9. The ability to make a bibliography,—pages 110, 177, 213, 280, 325.

* Arranged for the convenience of teachers. This plan, however does not preclude the use of the selections under other headings than those specified.

10. The ability to reproduce a story in parts (relay), or as a whole,—pages 34, 145, 238, 255, 272.
11. The ability to appreciate and interpret in dramatic action,— pages 139, 255, 284, 318.
12. The ability to increase vocabulary,—pages 87, 95, 230, 247.
13. The ability to memorize,—page 222, and poems.
14. The ability to appreciate refinement of speech,—pages 87, 106, 205, 230, 325.
15. The ability to appreciate a joke (humor),—pages 33, 63, 106, 139, 223, 318.
16. The ability to perform in response to directions given,—pages 101, 137, 188, 201, 262, 293, 296 (memorization).
17. The ability to use given data in another situation, (a) exercising judgment in selection, comparison and organization of data gleaned from reference or consultative reading,—pages 161, 185; (b) selection and organization of data for specific purpose determined by pupil, as (illustrated lecture),—pages 238, 262, 297 (story-telling in relay), (costumed story-teller).
18. The ability to summarize,—pages 121, 123, 145, 175.
19. The ability to create new situations from data given: (a) changing prose to poetry, page 280; (b) changing poetry to prose, page 33; (c) changing narrative to dramatic form, page 255; (d) changing introduction or conclusion, page 15; (e) changing form, but leaving meaning intact by change in vocabulary, page 156.
20. The ability to ask questions as well as to answer them,—(a) emphasizing the main points in paragraphs, page 128; (b) emphasizing the main points in parts or the whole selection, pages 205, 238, 325, 110; (c) selecting details related to the main point, pages 230, 116; (d) recognizing *relative worth* of ideas, of form, of expression, etc., pages 78, 318; (e) provoking thought —"reading between the lines," pages 110, 219, 238.

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BOYS AND GIRLS!

This is your book! It is a practice book in silent reading. It is going to help you to become a better reader by showing you how to "think straight" through a story. It tells you some things which you already know, and a few things which you may wish to know about famous people, nature, and other things. We hope you will want to read other books to find other interesting facts about birds and trees, ants and earthworms; about experiments and games for boys and girls; about holidays and festivals; about people who lived long ago, and those of not so long ago who have done noble deeds.

Learn to read by yourself as Lincoln did, and help others to read. Did you know that there are many boys and girls, over ten years of age, in our beloved United States today who cannot speak, read, or write the English language? What are *you* going to do about it? First, learn to read well yourself; second, help others to do the same. This will help to make all Americans better citizens.

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Note to Teacher. These are *type lessons*, chosen to illustrate the corresponding reading abilities. The Projects should be extended as far as choosing.

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several kinds of reading material and proper methods of developing time and opportunity will permit with suitable selections of your own

St. Gauden's Lincoln, Lincoln Park, Chicago

THE GREAT PRESIDENT

To a certain extent we may judge the character of a man by his words, written or spoken. Indeed, many of the world's great men may be known in no other way. On the other hand, "actions speak louder than words"; and if we may judge a man both by word and deed, we shall have a much truer measure of his character and real worth. In the following anecdotes, point out what seem to you worthy characteristics of Abraham Lincoln.

I

Many rural communities are now provided with some form of weekly entertainment. Such a thing was utterly unknown a hundred years ago. People had to provide their own amusements, if they had any; hence, whenever a fox chase, a wrestling match, or a coon hunt was planned, everybody was supposed to be interested—or nearly everybody—and it took considerable will power to refuse to join in the sport.

"Come on, Abe," called the leader to a young man bending over his books, "we're goin' coon huntin'; we got the dogs and everything. All we need is another good hand to help chop out the coons after the dogs tree 'em."

"I'm sorry, boys, but I really can't go with you to-night. I'm studying."

"Studying! Why, Abe, I reckon you don't expect to be President, or anything like that, do ye?"

"Well, no. I can't say that I do. But I'm going to prepare myself, and if the chance does come, I'll be ready."

Seeing that further argument was useless, the hunting party departed for the woods and Abe Lincoln returned to his law books.

II

Lincoln's chance came in 1860. Of course, the new President and everything pertaining to him were matters of great interest to the public. Pictures of Mr. Lincoln and his family, and stories about them, filled the newspapers and magazines. And the pictures and stories interested the children of that day just as they do now.

One little girl, whom we shall call Alice, because that wasn't her name, became a very warm admirer of the new President. She liked his rugged face—all except the whiskers. So she wrote him a letter and said, "Please, Mr. Lincoln, won't you shave off your whiskers? I should like you so much better if you would."

And what do you suppose the great President did? He wrote Alice a nice little note thanking her for her letter and promising to do as she suggested. His later pictures show that he kept his word.

III

The house in which the President lives in Washington is called the White House. Back of the White

House grounds, in President Lincoln's time, stood a public school building. Mr. Lincoln often watched the children at play and enjoyed their happy shouts and laughter.

But one morning he overheard something that made him sad at heart; he overheard some rude boys jeering and teasing little one-armed Johnny because his clothes were patched and his shoes blackened with stove polish instead of shoe blacking.

The President took the trouble to learn the facts about Johnny. He learned that the boy's father had been killed in the war and that his mother had been obliged to take in washing in order to support herself and four small children.

The next morning Johnny appeared at school dressed in a new suit of clothes and new shoes. He explained that the President had called at his home and had taken him to the store, and bought two suits of clothes for him and clothes for his sisters, and had sent coal and groceries to the house for his mother.

IV

Abraham Lincoln was southern born. He loved the South, and had many dear friends in the Southland. One of these was George Pickett, the famous Confederate General, whose home was in Richmond, Va., and whose wife and baby were there at the close of the war.

"The day after the surrender of Richmond," says Mrs. Pickett, "there came a sharp rap at the door.

With my baby on my arm, I opened the door and looked up at a tall figure standing on the steps."

" 'Is this George Pickett's place?' he asked.

" 'Yes, sir,' I answered, 'but he is not here.'

" 'I know that, madam, but I just wanted to see the place. I am Abraham Lincoln.'

" 'The President!' I gasped. The stranger shook his head.

" 'No, madam, just Abraham Lincoln, George's old friend.'

" 'I am George Pickett's wife and this is his baby' was all I could say. I had never seen Mr. Lincoln, but I remembered the love and respect with which my soldier always spoke of him.

"My baby pushed away from me and reached out his hands to Mr. Lincoln who took him in his arms. He put his arms around Mr. Lincoln's neck and gave him a dewy, loving kiss. As Mr. Lincoln gave the little one back to me, he shook his finger playfully at him and said:

" 'Tell that rascal, your father, that I forgive him for the sake of that kiss and those bright eyes.'

"Then he turned and went down the steps and passed out of my sight forever; but in memory those loving, human eyes, that strong, sad face, have an everlasting abiding place."

—*Stories of Lincoln.*

Other Selections: Anecdotes of Lincoln, Hay; *Lincoln, The Man of the People,* Mace; *Four Great Americans,* Baldwin; *American Leaders and Heroes,* Gordy; *Boy's Life of Lincoln,* Tarbell. *The Perfect Tribute,* Andrews.

MR. CRAWFISH

"A crawfish!" you say, then hurry away. Just stop long enough to hear this crawfish tell its story. Read through in two minutes and decide upon the important points.

"I am a crawfish and you may find me any summer's day by looking under the stones in the bed of the creek. I am not so fierce as I look, although I can pinch your finger and make it bleed.

"What do you say? I look like a lobster! So I do, but then, you see, the lobster is my cousin! and the crab is my second cousin. Near relatives often resemble one another, you know. But the lobsters and my people parted company long ago. The lobsters live in the sea and we live in fresh water. You are quite right; I am not a *fish*, although I live in the water and breathe through gills.

"You have a skeleton on the inside of your body, but I carry mine on the outside. It is a very good skeleton, and also serves to protect me from my enemies, like the armor of the warrior knights of old. Inside the skeleton, my body is somewhat like that of an earthworm; but I belong to a much higher order of animals than the earthworm, and my organs and habits are quite different.

"You would never have guessed that the little creature I was at birth would one day be a crawfish. I did not look like a crawfish at all. I had the most

comical head and funniest little tail that you can imagine. After a while, I changed my appearance entirely and a shell grew on my body. In a few days I grew tired of the shell, which was too small for me, so I just crawled out of it and within a few days I grew a new skeleton a little more like my present one; but soon I tired of that, too, and cast it off. I changed shells several times, each new one a little larger than the last, before I made the one I am now wearing.

"Oh, yes; I shall discard this one, too, some day. Already I am beginning to feel cramped in it.

"Perhaps you have noticed that I have two big pincer-claws. If one of these should be broken off, I would grow a new one the next time I change my armor. You are surprised at that? If I should lose a leg or an eye, I would grow a new one when I put on a new coat.

"Have you noticed my feelers? Those two, long, whip-like strands extending forward from my head? They are very useful to me. They serve me as whiskers serve a cat. I have four pairs of legs for walking, but I am not a good walker. Sometimes I have to use my arms, or pincers, to help drag my body forward. I can swim with the help of the little paddle-like limbs under my body. My legs are of little use to me in swimming. When I want to get away from an enemy, I fold my tail under my body and poke my big claws into the sand, or mud, and push myself back.

"Should you like to learn how I get my food? My favorite method is to lie within the mouth of my burrow, in the bank of the creek, with just my big claws, feelers, and sharp eyes outside. Then, when a bug, insect, or baby fish comes along, one of my big claws darts out and seizes it. If it has bones, or a shell, I crush it with my pincers and then carry it to my mouth with the smaller pincers on my second pair of legs, which I use as you do your fork.

"Now, I must leave you and return to my home in the creek. I like to get on dry land sometimes, for a little while, but I cannot live long out of water."

From Compton's *Pictured Encyclopaedia.*
Courtesy, F. E. Compton Company.

Helps to Study

Under each of the following questions, one, or more, of the phrases states a fact. Which phrases are true?

1. Where do I live?

In salt water, in fresh water, under stones in the bed of the creek, on the bank of a river.

2. How do I look?

Skeleton outside of my body, skeleton inside of my body, an outer shell like an armor, like an earthworm, no feelers.

3. How do I change my appearance?

Size of my shell always the same, lose my comical head and funny tail, grow new legs, new eyes.

Things to Do

1. Secure a crawfish for observation. Note its habits.
2. Use your reference texts to learn more than this story tells.

Other Selections: The Robber Crab, *White Shadows of the South Seas,* O'Brien; *The Year Out of Doors,* Sharp.

How the fruit industry in California has developed.

Fruit is now the King of California crops. This new industry began to develop when the first railroad from San Francisco to Omaha was completed, in 1869. Within a few years the people of California were sending packages of excellent fruit from their gardens to eastern markets. The fruit sold well and the people of the California Valleys planted more orchards, until, finally, the fruit trade was established. The chief wealth of the state is now neither in flocks and herds, nor in the gold and wheat of former days, but in oranges, lemons, raisins, prunes, pears, plums, apricots, peaches, cherries, and other fruits, and nuts.

California sends out enough oranges to make twelve big train loads a day, for four months of the year, each train having thirty cars. In addition, many thousands of tons of canned fruit, vegetables, and dried fruit are shipped annually from California.

Not long ago the people of our eastern cities were buying prunes, raisins, oranges, and lemons from Spain, Italy, and Greece. Now we get what is needed from California, and sometimes there is some left to be exported to Europe. The trees and vines to start these crops were brought from Southern Europe, where the climate is mild and the summers are dry like those of California. Gardeners, familiar with the work, were also brought from Europe.

New crops are constantly being established. A few old trees of olives, almonds, figs, and English walnuts did so well that many more such trees are being planted. The English walnut industry of California has grown very rapidly, and the almond industry is steadily increasing.

Blossom time. Nothing can be more beautiful than these valleys in the spring of the year. The valley is then green with fields of alfalfa, wheat, and barley. On the lower slopes of the mountains the orchards are covered with pink and white blossoms. Their perfume fills the air, and bees and insects buzz and hum as they fly from flower to flower. On the higher slopes flocks of sheep and cattle graze on green, flower-decked pastures. Still higher on the mountains is the darker color of the evergreen forest, reaching upward toward the snow that glistens on the mountain tops. Many travelers visit the Valleys of Central California to enjoy their beauties and to escape the harsher winters of their home states.

Co-operative methods. It is a help to a fruit grower if his neighbors grow the same kind of fruit that he grows. One advantage is that everyone in the neighborhood will then know how to do that kind of work. The stores will keep the needed tools and supplies. Full carloads of fruit can be shipped out because neighbors can send their fruit together. Another great advantage is gained when many growers join in the building of packing and storage houses for the use of all.

To secure the advantages derived from co-operation, California fruit-growing is centered in spots to an unusual degree. For instance, nearly all of the plums and prunes, and many of the cherries and pears are grown in the Santa Clara Valley. There is a long belt of orange orchards on the sloping alluvial fans that spread out from the foot of the Sierra, southeast of Lake Tulare. North of Lake Tulare, around Fresno, nearly everyone raises grapes to be shipped fresh to eastern markets, or to be dried as raisins. In 1920, Fresno County alone grew over two pounds of raisins for each person in the United States.

A little farther north, one peach orchard joins another for miles and miles. Along the cool shores of Monterey Bay, the Santa Rosa and the Napa Valleys, there are many orchards of apples and pears, and also many vineyards. Co-operation has helped to make the fruit industry succeed and grow so large.

Working together at harvest time. Fresh fruit that is sent to market is first taken to one of the co-operative packing houses. Through these community enterprises, or associations, thousands of farmers work together as one company or organization. The association buys its supplies wholesale, packs its fruit in uniform packages, sends it in carload lots to distant markets, sells it, and returns the money to the grower. The associations even advertise California fruit in other states, so that people will know about it and buy it.

Harvest is a very busy time for fruit-growers. Fruits, such as apricots, peaches, plums, and grapes are spread on trays and put in the sun to dry. When dried, the fruit is sorted and packed in boxes. Many of the fresh fruits are taken to the canneries to be canned by thousands of women and girls.

—From *Human Geography*, by J. Russel Smith.
Courtesy of The John C. Winston Co., Publishers.

Helps to Study

1. Verify as many facts as possible by using the map.
2. Turn to the text, and read for exact data upon a given point, as, "what gave the fruit industry in California a good start?" or "How did California enter into competition with Europe?" etc.
3. Give three reasons why California is a fresh fruit producing center. Scan the text again to see how many reasons given were right.

Other selections: How We are Fed, Chamberlain; *North America,* Carpenter; *Agnese and Her Fruit Stand,* Keyes.

LEARNING BY OBSERVATION

There are usually two kinds of children in school—"Eyes and No Eyes." How may they be distinguished?

When we were little and good, a long time ago, we used to have a jolly old book called *Evenings at Home,* in which was a great story, called "Eyes and No Eyes"; and that story was of more use to me than any dozen other stories I ever read.

A regular old-fashioned story it is, but a right good one, and thus it begins:

"Well, Robert, where have you been walking this afternoon?" said Mr. Andrews, to one of his pupils, at the close of a holiday. Oh, Robert had been to Broom Heath, and round to Campmount, and home through the meadows. But it was very dull; he hardly saw a single person. He would rather by half have gone by the turnpike road.

"But where is William?"

Oh, William started with him, but he was so tedious, always stopping to look at this thing or that, that Robert would rather walk alone, and so went on.

Presently in comes Master William, dressed, no doubt, as we wretched boys used to be forty years ago, frill collar, and tight monkey-jacket, and tight trousers buttoned over it, a pair of low shoes which always came off if one stepped into heavy ground; and terribly dirty and wet he is, but he never had such a

pleasant walk in his life, and he has brought home a handkerchief full of curiosities.

He has a piece of mistletoe, and wants to know what it is; and has seen a woodpecker and a wheat-ear, and got strange flowers off the heath, and hunted a peewit, because he thought its wing was broken, until of course it led him into a bog, and wet he got; but he did not mind, for in the bog he fell in with an old man cutting turf, who told him all about turf-cutting; and then he went up a hill, and saw a grand prospect; and, because the place was called Campmount, he looked for a Roman camp, and found the ruins of one; and then he went on and saw twenty things more; and so on, and so on, till he had brought home curiosities enough and thoughts enough to last him a week.

Mr. Andrews, who seems a sensible old gentleman, tells him all about his curiosities; and then it turns out that Master William has been over exactly the same ground as Master Robert, who saw nothing at all.

Whereon, says Mr. Andrews, wisely enough, in his solemn, old-fashioned way: "So it is; one man walks through the world with his eyes open, and another with them shut; and upon this depends all the superiority of knowledge which one acquires over the other.

"While many a vacant, thoughtless person is whirled through Europe without gaining a single idea worth crossing the street for, the observing eye and

inquiring mind find matter of improvement and delight in every ramble. Do you, then, William, continue to make use of your eyes; and you, Robert, learn that eyes were given you to use."

* * * *

And when I read that story, as a little boy, I said to myself, I will be Mr. Eyes; I will not be Mr. No Eyes; and Mr. Eyes I have tried to be ever since; and Mr. Eyes I advise you, everyone of you, to be, if you wish to be happy and successful.

Ah! boys, if you knew the idle, vacant, useless life which many young men lead when their day's work is done, continually tempted to sin and shame and ruin by their own idleness, while they miss opportunities of making valuable discoveries, of distinguishing themselves and helping themselves forward in life, then you would make it a duty to get a habit of observing, and of having some healthy pursuit with which to fill up your leisure hours.

—*Charles Kingsley.*
From *Madam How and Lady Why.*

Helps to Study

Determine from the story which of the following statements are true and which are false: 1. Robert had gone by the turnpike road. 2. William arrived home first. 3. William had seen a peewit. 4. He had also seen the ruins of a Roman camp. 5. Some one told him about the old curiosities. 6. Robert had been over the same ground. 7. Robert should be called "Sharp Eyes" and William "No Eyes."

Other Selections: Madam How and Lady Why; Nature Study and Life, Hodge; *The Story Book of Science,* Fabre.

THE ROAD THAT TALKED

"A road can't talk!" you say. Oh, yes it can; but it requires a particular kind of ear to hear its voice. See if you can find out what kind is required.

Dickie sat by the roadside and frowned at the toes of his scuffed shoes. He was very unhappy. Why had his mother gone driving with Mrs. Reed and left him with nothing to do?

A month before, when the doctor had ordered his mother to a country farmhouse for rest, Dickie had voluntarily given up school to accompany her. For awhile he had not minded the absence of playmates and toys, but now he was beginning to tire of lonesomeness. Oh dear! If only there was something to do!

He looked around him. Great, billowy, yellow-white clouds were piled up against the blue sky, and over toward the distant mountains was one that looked like a blacksmith's anvil. Dickie remembered that the farmer had called them "thunderheads" and said that they meant rain. Would his mother get wet? The boy's hand closed on a pebble at his side and he tossed it at the dappled bark of a near by tree. Oh, if there was something to do! He had just stretched himself out disconsolately with his head in a bed of ferns when a voice spoke at his elbow.

"It's dreadful, my boy, to be choked," it said, "and it's not a bit nice to have mud in your bed."

Dickie sat up quickly and again looked around him, but not a soul did he see. There was the same little stream at his left, the same muddy puddles in the wagon wheel ruts, the same stones in front of him, and yet something was different. What was it? Dickie stretched himself out for the second time, wondering, and another voice spoke:

"If people can smell and hear and see,
"Why is it, I ask, they're so cruel to me?"

Dickie jumped up like a jack-in-the-box, but the stream at his left, the muddy puddles in the wheel-tracks, and the very same stones were there as before. Quite solemnly he pinched his left arm; then he pulled two brown hairs out of his head and rubbed his eyes. "I'm awake all right," he declared, "but I must be crazy." He stared this way and he stared that way, and finally he demanded, "if you don't want mud in your bed, why do you have it there? Who are you, anyhow?"

Whereupon the first voice answered:

"I'm only a part of a roadside spring,
Too choked up with leaves to talk or sing.'

"Well, well," said Dickie, picking up a stick at once and hurrying toward the little stream, "you are a bit choked up, aren't you?" Fishing about with his stick, he began throwing out great gobs of wet, brown leaves. The little stream gurgled forward joyfully, carrying away mud and ugly sticks and leav-

ing only pretty pebbles to stare up at Dickie. He was so pleased that he raked and scraped with his piece of a stick until the little stream was running merrily across the road instead of oozing out into muddy puddles in the wheel tracks. "There," said the boy at last, "I wonder why people haven't done that before?"

And a voice replied:

They want eyes to see and a heart to do;
The eyes and the heart belong to you."

Dickie blushed at this praise, but it was so unexpected and queer to hear a stream talk that he thought something else might do it too, so he said aloud, "Is anybody else in trouble around here?"

At once a voice answered in a very great hurry,

"If the wagon wheels don't break my back,
My smooth white face they're sure to crack."

Dickie, somewhat puzzled, looked this way and he looked that way, and at last saw a big, white stone square in the wheel tracks. He lifted it up carefully and put it in a hole that had been washed in the middle of the road.

"You'll help the road there," he told the rock, "and I guess people will be glad not to bump over you any more." He was beginning to enjoy his new work and was looking around for another stick or stone that needed him, when the white stone began calling him in an excited voice:

"Run right home just as fast as a man,
And come again as soon as you can."

A great drop of rain splashed down on the end of Dickie's nose, and he found that he had been so busy that he had not noticed the sky. The puffy yellow clouds had turned black, and a sheet of silver rain was rushing toward him with a roar like an express train. He turned and ran toward the farmhouse and got there the same moment the thunder began to crash. He found that his mother had come home by another road and was sitting in front of a crackling wood fire waiting for him.

"Oh, mother," he shouted, "I've learned the language of the road while you were gone. The stones and the stream have been talking to me."

Dickie's mother smiled. "You funny boy," she laughed. "You've been asleep."

"No, mother," insisted Dickie, "indeed I haven't. Dogs and horses don't talk as we do, but you can easily learn what they say. If they're cold or hungry, you know it, don't you? Well, I've learned about the road this afternoon. When it has gullies in it, it feels as we would, if we had holes in our faces, and it's ever so uncomfortable with its ditches filled up. I guess it feels just as we do when we can't blow our noses. I'm going out to-morrow and dig out some of the ditches, next the banks, so the rain can run in those and not wash out the road."

"My dear boy," said Dickie's mother, "if you'll keep the little holes in the road filled up and the little ditches unfilled, you'll save the county many hundreds of dollars in repairs each year."

When she told the farmer about it that night, he said, "Sometimes you meet a man who can speak French, German, and English; sometimes he can talk Chinese, but the greatest man of all is the one who understands the language of the crooked post, the broken gate and the forsaken road."

And Mrs. Reed said, "I wonder if I could teach my children that language?"

"Of course you can," declared the farmer. "Send them outdoors every single day and tell them to look and to listen and to do at least two things every day for something that can't talk English, and after a while they'll get so they can hear the crooked post distinctly say:

'Oh, please, Mister Man, won't you straighten me;
My back's half broken, as you can see?'

And the broken gate say:

'Oh, please, Mister Man, won't you fix me up,
I'm tired of swinging g-plup-g-plup?'

Dickie smiled at the farmer because he knew that they understood a language which the others didn't know, and he went to bed still smiling because he had learned a new language without being taught.

—*Louise Rand Bascom.*
From *American Motherhood.*

Helps to Study

Select from the statements given below the one which best expresses the central thought of the first paragraph. a. Dickie sat by the roadside. b. Dickie's mother had gone riding. c. Dickie had nothing to do. d. Dickie was unhappy.

THRILLS OF THE SHOW RING

Some boys sit on the benches and are thrilled by the sights of the show ring; they are the spectators; some boys enter the arena below in view of the spectators above, and enjoy all the thrills of the show ring; they are the participants. Find out what "Thrills of the Show Ring" is about and discuss the main points with your classmates.

The first meeting of the Hillington Calf Club, since the eventful trip to the state fair, was to be held with Harry Andrews. The meeting was arranged in honor of Eureka Maid, Harry's champion calf, which carried off the blue ribbon in the largest dairy-calf show ever held in America.

In expectation of company, Harry had given Eureka Maid more than usual attention. Her dainty suit of white ermine, with gorgeous black trimming, was cleaned and brushed until it glistened;

her horns and hoofs were carefully polished; and the fluff of her tail was brushed until it resembled the silken hair of a child.

Harry, too, was groomed for the event. He was wearing his club pin, and anxiously awaiting the arrival of his friends. As he stepped out of the kitchen door, Ted Wilson, the president of the club, could be seen approaching in the dim twilight.

"Hello! Ted, I've hardly calmed down yet," exclaimed Harry, as he grabbed his fellow club member by the hand. "Some show! wasn't it? But when the judge started that big calf up the line, motioning to its owner to take her clear to the top, my heart fell. I thought I was beaten. I could have cried, almost, if it hadn't been that the chap next below me was already sniffling, and he was larger and older than I."

"Pshaw, I knew you had won, Harry, hands down," returned Ted as he seated himself on the well curb. "Just think of her top line, and that beautiful dairy head. Why, Harry, your calf was in perfect condition, her coat was like velvet. You had nothing to worry about."

"Perhaps; but, you know, it was the first time I was ever in the show ring, with a calf of my own, and I didn't realize that so much depended upon me. How I tugged at Eureka Maid to get her to square up before the judge got there! And that chap next to me had his calf trained to prick up her ears and stand like a picture whenever he snapped his fingers."

"O, I learned a lot of the tricks of the show ring

down there, Harry. You remember the fellow who finally got second place. When I went over to congratulate him, we got quite confidential. He told me he washed his calf in warm water with just enough bluing in it to make her white spots whiter and the black marks blacker. He was a fine fellow, and I was glad he got close to the top. I like to see a square fellow win."

"I must say that I felt kind of sorry for that fellow standing at the top so long. Did you see the confident expression he carried? You know they finally left him in third place. He surely had a beautiful animal."

"He did have a beautiful animal," returned Ted. "I am here to say I had a beautiful animal myself, but the judge dropped me down to tenth place. They were all beauties. Out of that class of thirty-nine Holstein heifers, there was not an individual but would do credit to any show ring. I am not ashamed that I got tenth place. I was satisfied with that after I saw the competition we had; and, especially, with one of my club members standing at the top of the row."

"Now, Ted, old man, you make me feel ashamed of myself," said Harry. "That's heaping coals of fire on my head."

"No such thing, Harry."

"Yes it is, for I can't forget the valuable pointers you gave me just before entering the ring; and I have not forgotten how you came over here to help

me trim her up, clipping her hair, and polishing her horns, two weeks before the fair, so that she would look her very best. Ted, you just kept at me all summer—now you can't deny that—urging me on and telling me what to do to make my calf show off a little better. On the other hand, I can't think of a thing I did for you." The tears began to gather as Harry, with disturbed conscience, faced his fellow club mate and said, "Ted, you won first place, I didn't—you and Eureka Maid."

"Not a bit of it, Harry, the little I did was only what any club brother would have done. Why, I've got all the credit and enjoyment due me from just seeing you top the list in that big class; and better than that, our club got first as a club group! Isn't that great? We can't all be first in a class, but when the club wins, we all share the glory.

"That prize includes every fellow we left at home, too—even Lee Williams, who knew he was beaten last spring before our club fairly got under way. That chap has been more of an inspiration to me than any other fellow in the club, simply because he stayed in the game and finished the job, when he knew he could not afford to go to the state fair or to pay as much to get a good calf in the beginning. You know, he has never missed a club meeting all summer, and that's uphill fighting at his house.

"Harry, I think the most pathetic sight I ever saw in my life was over here at our local show when our club leader was trying to decide which calves should

be taken to the state fair. I've never told a soul about this, but you remember after our calves were placed, you stayed outside to have your picture taken with Eureka Maid. Well, most of the other boys were exercising their calves and waiting around to see you get 'shot'; but I noticed Lee Williams take his little Jersey calf straight back to the barns. I knew he was feeling rather blue; so, quickly as I could, I followed him hoping to get a chance, before the other fellows came, to cheer him up a bit.

"When I reached the calf stalls, this is what I saw. After tying his calf up, Lee crumpled in a heap on the bedding right beside her. I could see by the movement of his shoulders that the strain had been too much and, though beaten in the most honorable way a fellow ever met defeat—through lack of funds—it nevertheless had cut deep into his heart. Brown Bessie, however, comrade you know the whole summer long, stood soothingly licking his coat. I don't know, Harry, that I ever felt more like crying in my life. How I wished I hadn't come in so soon, but it was too late then. The noise of our coming had reached Lee's ears, and quick as a flash, he was on his feet, but bending over and pretending to be tying the rope.

" 'Fine show, wasn't it,' came from his cheery voice, 'Glad Harry won, because he has a fine calf, and you know he has worked pretty hard; and, of course, would have felt pretty bad if he hadn't won first. You fellows should take some of the club

honors down at the fair. That'll seem as though I had a part in it, if our club wins.' So you see, Harry, that's the kind of stuff Lee Williams is made of. He's a real club member."

By this time, Harry's countenance had undergone another change. He straightened up and, looking his club brother straight in the eye, exclaimed vehemently: "That's the best thing I have heard for a month—that's a lesson I had never learned about club work before. Ted, this club work grips me! I'm afraid though, I haven't been a good club member. I'll have to acknowledge the one thing I had in mind was to win the contest for myself. I wish now I hadn't got first. I think Eureka Maid deserves it, but I don't. Ted, you ought to have been at the top, because you made her win and you have caught the spirit. Can't we fix it up that way at our meeting to-night?"

"Not on your life, Harry; if we're going to judge the boys as well as the calves, I'd have to pass the honor to Lee."

"Well, you'll run him a close second and I'm going to suggest that in awarding the prizes for the year's work that we score the boys as well as the calves. I simply can't and won't take the money won by my calf when you fellows did more than I did to make her win. Now not a word, Ted, I insist on it for the good of the club."

"Honk, Honk! Honk, Honk!" The hour for the club meeting had arrived and the autos were coming

from both directions. The argument was still unsettled when the meeting was called, and so were the stories of the "thrills of the show ring," for no one club meeting could hope to dispose of such extraordinary experiences as the boys' first try at the show ring.

—*T. L. Bewick.*

Helps to Study

1. Ask five good questions to bring out the essential thoughts.

2. List a series of words which you think most aptly describes the character of one of the boys—the boy of your choice, as brave, generous, etc.

3. What are the advantages of club work?

4. Should Harry have divided the prize money with the other club members?

a. Arguments for————.

b. Arguments against————

Things to Do

1. Form a Calf, Pig, or Cow Club in your community. Get all necessary information from the County Agent, or Club Leader.

2. Keep a record of Club Activities.

3. Write to the Department of Agriculture, Washington, D. C., for bulletins giving desired information.

Other selections: Foamy Chops, Thompson Seton; *A Club Boy's Story,* National School Service; *The Turnip-Hoeing Match,* Connor; *Toby Tyler,* Otis.

THE NEW BOY

In England there are a number of famous schools for boys, among them Rugby and Eaton. Find out in what ways life at a private school differs from life at a public school.

"And so here's Rugby, sir, at last, and you'll be in plenty of time for dinner at the schoolhouse, as I told you," said the guard, pulling his horn out of its case and tootle-tooing away, while the coachman shook up his horses and carried them along the side of the school close (yard), past the school gates, and down the street to the Spread Eagle.

Tom's heart beat quickly as he passed the great school field, or close, with its noble elms, in which several games of football were going on, and tried to take in at once the long line of gray buildings, beginning with the chapel and ending with the residence of the head master, where the great flag was lazily waving from the highest round tower. And he began already to be proud of being a Rugby boy, as he passed the school gates and saw the boys standing there, looking as if the town belonged to them, and nodding in a familiar manner to the coachman, as if any one of them would be quite equal to getting on the box and driving the horses as well as he.

One of the young heroes, however, ran out from the rest, and scrambled up behind, where, having righted himself and nodded to the guard, he turned to Tom, and, looking him over for a minute, began, "I say, is your name Brown?"

"Yes," said Tom, in astonishment, glad, however, to meet some one already who seemed to know him.

"Ah, I thought so; you know my aunt, Miss East; she lives somewhere down your way in Berkshire. She wrote to me that you were coming to-day, and asked me to look out for you."

Tom was somewhat inclined to resent the patronizing air of his new friend—a boy of just about his own height and age; but he could not help admiring and envying him, especially when he began arranging with one of the posters, whom he called Cooey, to carry Tom's luggage up to the schoolhouse for a sixpence.

"And remember, Cooey, it must be there in ten minutes, or no more work from me. Come along, Brown." And away goes the young lad with his hands in his pockets and Tom at his side.

"All right, sir," said Cooey, touching his hat, with a laugh and a wink at his companions.

East took delight in his character of guide. He led Tom through the great gates, where there were now only two or three boys. They asked him the questions that were asked of all new boys—"What is your name? Where do you come from? How old are you? and "What form are you in?"

Then East marched him off into the school yard again, and began showing him the schools and examining him as to his previous lessons to see if they could be in the same form and learn their lessons together.

"And now come in and see my study; we shall have just time before dinner."

Tom followed his guide through the schoolhouse hall, which opens into the yard. It is a room thirty feet long, with two tables running the whole length and two large fireplaces at the side. Several boys were standing before one of these fires, and they shouted to East to stop; but he hurried along with Tom, and landed him in a dark passage with a fireplace at the end of it and small rooms opening on each side.

Into one of these, East pushed Tom and then, jumping in himself, he slammed and bolted the door behind them, in case of pursuit from the hall.

Tom had not been prepared for separate rooms, and was a little astonished and delighted with the study in question. It was not very large being about six feet long by four broad, but it looked very comfortable, Tom thought.

The place under the window was occupied by a square covered by a red-and-blue-checked tablecloth; a hard-seated sofa covered with red occupied one side running up to the end and making a seat for one or, by sitting close, for two at the table; and a stout wooden chair afforded a seat for another

boy, so that three could sit and work together. Over the door was a row of hat pegs, and on each side, bookcases with cupboards at the bottom, a cup or two, a mouse trap, brass candlesticks, leather straps, a bag, and some curious articles, which East explained were climbing-irons. A cricket-bat and small fishing rod stood in the corner.

This was the residence of East and another boy in the same form, and had more interest for Tom than Windsor Castle, or any other residence in the British Isles. For was he not about to become joint owner of a similar home, the first place which he could call his own?

"And I shall have a study like this?" asked Tom.

"Yes, you'll be chummed with some other fellow on Monday, and you can sit here till then."

"What nice places!"

"They are well enough," answered East, only very cold at night sometimes. Gower—that's my chum—and I make a fire on the floor with paper after supper generally, only that makes it so smoky."

A quarter past one now struck, and the bell began tolling for dinner; so they went into the hall and took their places, Tom at the very bottom of the table next to the tutor, and East a few paces higher. And now Tom saw for the first time his future schoolfellows in a body. In they came, some hot and ruddy from football or long walks, some pale and chilly from hard reading in their studies. A large man, whom Tom took for a master, began

calling over the names, while the meat was being carved on a third table in the corner.

Tom's turn came last, and meanwhile he was all eyes, looking first with awe at the great man who sat close to him and was helped first, and who read a hard-looking book all the time he was eating. However, notwithstanding his awe and curiosity, Tom managed to make a capital dinner by the time the big man called, "Stand up!" and said grace.

As soon as dinner was over, and Tom had been questioned by such of his neighbors as were curious as to his birth, parentage, education, and other like matters, they went out into the great playground.

"That's the chapel, you see," said East, "and all this part where we are is the little-side ground, right up to the trees; and on the other side of the trees is the big-side ground. But, I say, it's awfully cold, let's have a run across," and away went East, followed by Tom close behind.

East was evidently trying to do his best, and Tom, who was proud of his running and anxious to show his friend that, although he was a new boy, he was not a baby, raced as hard as he could. Across the close they went, each doing the very best he could, and there wasn't a yard between them when they stopped at the other side.

"I say," said East, as soon as he caught his breath, "you run pretty well for a new boy. Well, I'm as warm as toast now. Hurrah! Here's the punt-about, come and try your hand at a kick."

The punt-about is a ball that is brought out and kicked about from one boy to another before roll call, dinner, and at other odd times. They joined the boys who had brought it out, and Tom had the pleasure of trying his skill at kicking it.

Presently more boys came out and more balls were sent for. The crowd thickened as three o'clock approached; and when the hour struck, one hundred fifty boys were hard at work. Then the balls were held, the master of the week came down in cap and gown to roll call, and the whole school of three hundred boys swept into the big school to answer to their names.

—*Thomas Hughes,*
From *Tom Brown at Rugby.*

Helps to Study

1. Describe the school buildings and grounds as they appeared to Tom upon arrival. 2. Describe the dormitory, Tom's room. What made his room so attractive? 3. How did the boys show their interest in Tom? 4. What is your opinion of East? 5. How did Tom meet the new school situation? Prove it by illustrations. 6. Find some words which show that the setting of this story is English.

Things to Do

1. When a new pupil comes to your school, how do you receive him? List the things one may do to make him comfortable in new surroundings. 2. Find other stories of English school boys and compare with this one.

Other Selections: Squcers of Dotheboys Hall, David Copperfield's School Days, Dickens; *Michael, Kim,* Kipling; *Tom Bailey of Rivermouth,* Aldrich.

IT COULDN'T BE DONE

There is a challenge in this poem. Can you prove it?

Somebody said that it couldn't be done,
But he with a chuckle replied
That "maybe it couldn't," but he would be one
Who wouldn't say so till he'd tried.
So he buckled right in with the trace of a grin
On his face. If he worried, he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.

Somebody scoffed: "Oh, you'll never do that;
At least no one ever has done it";
But he took off his coat and he took off his hat,
And the first thing we knew he'd begun it.
With a lift of his chin and a bit of a grin,
Without any doubting or quiddit,
He started to sing as he tackled the thing
That couldn't be done, and he did it.

There are thousands to tell you it cannot be done,
There are thousands to prophesy failure;
There are thousands to point out to you one by one,
The dangers that wait to assail you.
But just buckle in with a bit of a grin,
Just take off your coat and go to it;
Just start to sing as you tackle the thing
That "cannot be done," and you'll do it.

Edgar A. Guest.
From *The Path to Home.*

THE ATHENIAN YOUTH

Suppose you were called upon—and you may be so called—to give a talk about a Greek school boy of seventeen hundred years ago, you would need some preparation. Gather the needed information from this story.

We like to think that our schools are the best in the history of the world. Perhaps they are; but whether our schools are a success or a failure depends in the end upon what kind of boys and girls—men and women—those schools send into the world.

The leading nations of ancient times grew up along the shores of the Mediterranean Sea. Among these, Greece holds first rank on account of the excellence of her art, literature and learning.

We are particularly interested in Greek life and culture because she has so greatly influenced our own. For instance, very many words in our language like *grammar* and *theater*, are borrowed directly from the Greek. Classes in drawing often copy from old Greek models, and many of the best stories in our literature are translations, or imitations, of the old Greek masters.

The center of Greek culture was Athens. Among all of the cities of Greece none was so famous for her schools and theaters, and for her temples and public buildings; and in no other could be found such a group of renowned teachers and artists, sculptors and actors, orators and statesmen as claimed Athens for their home.

Among the Athenians, schooling began in early childhood. Until they were seven years of age, boys and girls lived together in the home and were taught by the mother and nurse. At seven, their paths separated. The daughter remained secluded with her mother and picked up what little knowledge her mother could impart; but, for any knowledge of what was going on in the world outside, she was wholly dependent upon what her father and brothers chose to tell her. Many an Athenian maiden was highly cultured, but her brother received far more schooling, as we shall see.

At seven, the Athenian lad was placed in charge of a guardian slave who followed the boy about like a shadow. Wherever he went—to and from school,

out to play, or into the house—the faithful slave closely followed. Although in no sense a teacher, nevertheless upon the guardian slave fell the duty of instructing his charge in good manners: in the proper way to stand, sit, walk, eat, and dress; and how to appear well before company. If necessary, the slave had authority to enforce his commands with the aid of the strap.

His schooling came under three headings: gymnastics, music, and letters.

Instruction in gymnastics was given in the "wrestling-grounds." Here he learned to wrestle, box, run, jump, and throw the discus and spear. Swimming and games were also taught, and of the older boys military training was required. Athletic meets were frequent and were well attended.

In music, the pupil learned to play the lyre and to sing to his own accompaniment. For this purpose, he must memorize all of the lyric poems—those that could be sung—and be able to sing and play any that were requested.

The third branch of education comprised reading and writing. In reading, the pupil began with the letters, then the syllables, and then the words. In writing, the master "scratched" the letters on a wooden tablet covered with wax and then guided the pupil's hand to make them.

The aim of Athenian education was to make a good Athenian—a high class citizen. To that end, pupils were required to memorize long passages

from the great poets and orators; to be able to recite the great deeds of Grecian heroes; and to pledge unfaltering allegiance to their city and state.

In conclusion, the reader is referred below to books of stories which the Athenian youth delighted to hear and tell. There is space herein only for his Pledge of Allegiance:

"We will never bring disgrace to this, our city, by any act of dishonesty or cowardice, nor ever desert our suffering comrades in the ranks. We will fight for the ideals and sacred things of the city, both alone and with many; we will revere and obey the city's laws and do our best to incite a like respect and reverence in those above us who are prone to annul or set them at naught; we will strive unceasingly to quicken the public's sense of civic duty. Thus in all these ways we will transmit this city is not only not less, but greater, better, and more beautiful than it was transmitted to us."

—*A. M. Addison.*

Helps to Study

1. What points are made in the introduction? 2. Plan to show in what ways the Greek boy's school life was different from ours. This outline will help you in reading:

a. The life before school days began.

b. The office of the guardian.

c. His schooling: 1. Gymnastics. 2. Music. 3. Letters. 3. The aim of Athenian Education. How did it differ from ours? 4. The Athenian Oath. What pledge, if any, do we take that similar? 5. In what ways do you think our schools better than those the Greek boy attended? Prove.

Other Selections: Our Ancestors in Europe, Hall; *European Beginnings*, Gordy; *The Boys Who Lived on the Road from Long Ago to Now*, Andrews; *The Story of the Iliad*, Church.

A SILVER FOX

Ernest Thompson Seton is a lover of the great outdoors. He wanders in the highways and byways, and knows the animals that cross his path. He is their friend. He respects them in their haunts, and they welcome him to their homes, and reveal to him many of their secrets. He is the "Hiawatha of the Woods," and writes of them as brothers. Thus has he written of the silver fox. Read the selection, paragraph by paragraph, and try to remember the *important* things that are given in each.

High on a hill that sloped to the Shawban from the west was a little piney glade. It was bright with the many flowers of the song-moon time, but its chief interest lay in this—it was the home of a family of foxes.

The den door was hidden in the edge of a pine thicket, but the family was out now in the open to romp in the day's best hour.

The mother was there, the central figure of the group, the stillest, and yet the most tensely alive. The little ones, in the woolly stage, were romping and playing. They romped and wrestled in a spirit of unbounded glee, racing with one another, chasing flies and funny bugs, laboring with frightful energy to catch the end of mother's tail or to rob a brother of some worthless, ragged remnant of a long past meal.

The prize of all, the ball of the ball game and the "tag" in the game of catch, was a dried duck wing. It had been passed around and snatched a dozen times, but the sprightliest cub, a dark-looking little chap with a black band across his eyes, seized it and raced round and round until the rest gave up pursuit, losing interest in the game they could not win.

In the midst of the big, little riot, the form of another fox, gliding into view, gave the mother and the cubs a slight start; but his familiar form quieted them: it was the father fox. He carried food, so all the eager eyes and noses turned his way. He dropped his burden, a newly killed muskrat, and mother ran to fetch it.

When the mother threw the muskrat to the cubs, they fell on it like a pack of little wolves on a tiny deer, pulling, tugging, and growling.

Mother looked on with love and seeming admiration, but she divided her attention between the happy group about the meal and the near woods which might contain a foe; for men with guns, boys with dogs, eagles and owls, all are ready to make quarry of a baby fox.

Their merry feast was at its height when the far-away "Yur-yur-yur-yap" of the father was heard, telling plainly of approaching danger. Had the cubs been half grown, they would have known what it meant; but being so young, mother quickly sent them tumbling back into the den, where in the dim light they quietly finished each the piece of muskrat he had secured.

Part II

Among the farms of New England alone there are at least a thousand pairs of foxes. Each and every pair raises a family every year, and it is very certain that such home scenes as this described take place by every den door at least once every fine day during the late spring and early autumn.

Like many of the farmer boys, Abner used to fox-hunt in the winter. He was the proud possessor of a hound that promised to be "the finest in the State." Though only a puppy, he already was large-limbed, thin-flanked, and deep-chested. He had a voice of peculiar resonance and power, and a sullen, savage temper that boded ill in his prime. Abner had locked him up, but a chance had set the puppy free, and off he went in search of Abner. It was his near approach on his master's track that had startled the father fox.

The mother, having seen her young hopefuls safe indoors, now ran to intercept the danger. She laid her trail so as to catch the hound should he come near the den, and in a little while heard a brassy bellow that made even her stout heart beat faster.

But she had no thought of herself. She led the lumbering hound away; then at the safe distance of a mile, dismissed him by a very simple double-back and came again to the den to find all safe.

But one day while the cubs—the dark one, the slim sister, and the little brother—were rollicking about the glade in search of father's latest kill, the

brindled hound burst in upon them. His sudden roar struck terror in their hearts. They scattered, but the little brother was not quick enough; the great paws crushed his ribs and the hound had him.

Domino was returning home one day with food. Five little black noses, ten little beady eyes set in woolly heads, were bunched in the den-door and pointed at him or at the food he brought, when there sounded near, the penetrating bay of a hound, and Domino, startled, leaped on a stump to hear.

There was no mistaking that uncanny note, the voice of his ancient enemy. On no account must that enemy come nearer the home-place, and, downing the fear in his breast, the dark fox loped to meet the hound, while the mother warned the young ones.

The run was hard for an hour. Then Domino sought to shake off the hound as before, but found it not so easy. Hekla had been learning and was now a gifted trailer. The first and second ruses failed. Then Domino remembered the narrow ledge along the cliff where the Shawban leaves the hills and thither led his foe.

Chance or plan, who can say? The chase drew near the cliff. The Silver Fox in his glossy black was bounding on the shore, and it seemed his speed was failing. The hound was closing, was straining, lunging, and breathing hard, and still was closing.

They reached the broad pathway; it seemed a trap. Then Domino went slower; the dark hound saw the victim in sight; four bounds were all between,

and the pathway narrowed. The hound got closer still—so close that now he knew that he had won. Another bound, the lagging fox was almost in his reach, and again; up that span, wide ledge the hunted lightly sped, and Hekla, broad-breasted, over-broad, crashing blindly on, was smashed back by the rugged cliff, was hurled, battered and bleeding, and down—down into the icy flood below, while the black fox watched him plunge.

For two hard miles it dragged him over jagged rocks and under water-whirls, then gave a scornful swish that left him stranded on its bank, a crippled, humiliated wretch.

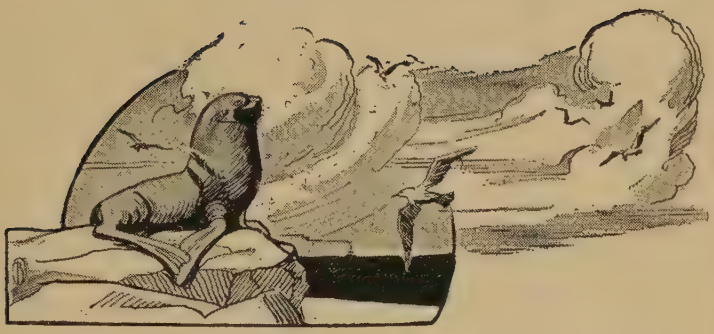
Not that night did he reach home. Not that spring or summer did he again go trailing. Five little black noses, ten little beady eyes in innocent, woolly heads, still come to the den-door, daily, unafraid, for father was all-powerful and the den in the aspen-dale was a den in a dale of peace.

—*Ernest Thompson Seton.*
From *The Biography of a Silver Fox.*

Things to Do

Make an outline for each part. Be ready to tell one part of the story which you prefer to your classmates. Let the class vote on the best presentation. Find out all you can about Silver Fox Farming.

Other Selections: Animal Traces in the Snow, B. H. Standish; *Fox Ways, Ways of Wood Folk*, W. J. Long; *Winter*, Dallas Lore Sharp; *The Little Blue Fox*, David Starr Jordan.



SEA ANIMALS

Information test. What facts given in this story are new to you? List them as you read.

"I heard Uncle John say he caught a whale of a fish yesterday. What did he mean, father? Isn't a whale a fish?"

"No, my son, a whale is not a fish and not every fish is a whale, in spite of what Uncle John said. Fishermen are much given to exaggeration, and I'm afraid your uncle has fallen into the same evil habit. He probably caught an extra large fish and in the excitement of the moment imagined it was a whale."

"If a whale isn't a fish, what is it? I thought everything that swam in the water was some kind of a fish."

"No, no, you are wrong again. There are many, many more animals in the sea than on the land.

They range in size from the minute forms so small that they cannot be seen, except with the aid of a powerful microscope, to the giant whale, largest of all living things. The fishes form only a part of the sea animals, though probably the most valuable part to man.

"Stop and think for a moment of the lobsters and oysters, snakes and snails, turtles and sea birds, seals and walruses, polar bears and whales—these and hundreds of other kinds live in the sea, but even a fisherman would hesitate to class them all among the fishes. Many of them, you must know, are as different from the fishes as are the animals on land, and some of them are capable of living both in the water and on the land."

"Tell me about them, father. Tell me first about the sea birds and then about all the rest."

"Well, well, that's a big program, son, a big program, for volumes have been written about each known form of sea life. I will tell you about a few forms, however, and perhaps that will lead you to read further in the reference books.

"On the rocky coasts and islands of the sea, the sea birds make their homes. There they build their nests and rear their young. In some of these rookeries, as the places are called, the sea birds are so numerous that when suddenly frightened, as by the firing of a gun, they rise in such dense clouds as almost to darken the sky; and their piercing cries can be heard above the roar of the sea. In places

their nests are so thick as to fairly touch one another like the cells in a honeycomb. These rookeries have been the homes of the birds for untold ages. Food is obtained wholly from the sea. The refuse is called *guano*, and in places it is eighty to one hundred feet in depth. Guano is mined and sold for fertilizer.

"The seals are among the most interesting and valuable of sea animals. One species of fur seals inhabits the Pribilof Islands in Bering Sea. Seals migrate like the birds. When the water gets too cold in the fall, they seek warmer waters, and do not return until the next spring.

"The males return first, thousands of them in a herd, and each selects a plot of ground for his 'harem.' On this plot Mr. Seal keeps as many wives as he can capture and guard against recapture. Mr. Seal is about four times as large as Mrs. Seal, or in other words, he is larger and stronger than any four of his wives; but he needs all of this size and strength in the spring for the struggle that will soon be upon him.

"In about three weeks the first herd of females arrives, and at once the fight is on in earnest. Before Sir Gallant Seal can establish his claim to the hand of Lady Seal, he must prove his prowess in mortal combat; he must meet and overcome all contenders for the lady's hand. And this sort of combat must be repeated for each new addition to the household. Like the cock of the barnyard, if he would win and

keep a flock about him he must fight! An old champion will sometimes capture and retain fifteen or twenty lady seals for his harem.

"Another interesting time in the seal household is when the cubs are born. A mother has one cub usually, but often twin cubs. They are as cunning, and almost as helpless, as a new born babe. The mother feeds and cares for her young with almost human thoughtfulness. Of a morning when she puts to sea for breakfast, the baby is left asleep; and when she returns, she makes her way unerringly, past thousands of whining cubs, to the exact place of her own little one.

"By and by the baby must be taught to swim. Mother seal takes it to the water's edge and pushes it in. After a few lessons, baby has mastered the art of swimming and is then allowed to go near shore in search of its own food.

"Formerly seals were hunted and slaughtered by the hundreds of thousands just for their skins. Now the government protects these animals and allows only a limited number to be killed each year. Seal skins are highly prized for ladies' capes and coats, muffs and mittens. The 'blubber' makes good oil and the flesh is the chief food of the Eskimo and polar bear."

"Oh, don't stop yet, father, go on, go on!"

"Very well, while I'm talking about seals, I must not forget to mention the walrus. This animal resembles the seal somewhat, but is much larger

and stronger. He has been known to push his head up through ice three inches thick and pull himself on top by his huge tusks. The walrus is chiefly valuable for oil, leather, and ivory. His tusks sometimes grow to be two feet long. He is said to be a timid animal, but will fight fiercely when attacked. Like the seals, the walruses live in colonies.

"Now one more, and, inasmuch as this is to be a whale of a story, as Uncle John would say, it shall be my last.

"Do you remember the time we weighed old Bossy's calf? It weighed seventy-five pounds, and we thought it a pretty big calf; but what do you think of old 'Sulphur' whose pasture is in the Pacific Ocean? She had a calf a few years ago that weighed eight tons at birth and measured twenty-five feet in length? Some baby! wasn't it? But old Sulphur, herself, was something of a cow, too. She weighed seventy-five tons and was eighty feet long. Like old Bossy, she brought forth her calf alive and nursed it with her own milk for some months. The whale calf grows very rapidly and at six months is able to hunt its own food in the sea.

"Old Bossy feeds leisurely in the pasture, cropping the grass and clover step by step. Old Sulphur, on the contrary, moves rapidly about in her boundless pasture. She holds her great mouth wide open, and scoops up everything before her. When she gets a mouthful, she closes her jaws, squirts the water out, and swallows a barrel of fish at one gulp.

"Whale fishing has flourished for more than a thousand years. The chief centers of the industry in America are New Bedford and San Francisco. Whales are hunted chiefly for oil and whalebone. The hunters sight their prey when he comes to the surface for air. 'There he blows!' some one shouts and away dash the boats. The first boat that gets close enough shoots a harpoon into the monster, and then the fun begins. The harpoon is a large steel arrow to which a rope is attached. As soon as the whale feels the sting of the harpoon, he dashes about furiously, sometimes among the boats and sometimes to the bottom of the sea, up and down, here and there, until his life is spent. Then the carcass is towed ashore, the blubber rendered into oil, and the whalebone prepared for commerce. A large 'bow-head' may yield from two to three hundred barrels of oil and two tons of whalebone, and be worth to its captors from $10,000 to $20,000."

"Whew! I guess that will satisfy Uncle John for a while. Thank you, father."

"Good night, son."

—*J. A. Harley.*

THINGS TO DO

1. Let one or more members question the class vigorously to determine how much, or how little, the class knows about sea animals. 2. Collect pictures of sea animals.

Other Selections: The Fish I Didn't Catch, WHITTIER; *The Walrus,* E. MARSHALL SEWELL; *The Walrus and the Carpenter,* CARROLL; *Twenty Thousand Leagues Under the Sea,* VERNE.

This story lends itself to rapid reading, or skimming, and intensive reading. Read the introduction at a glance. State the situation. At a given signal the girls may begin reading "Mary's Story," while the boys may start "Father's Story" at the same time. Read the story *once;* organize your facts as you read, and be ready to give a "Lilliput Lecture." The time limit for the reading is three minutes. Appoint three judges to decide whether a boy or a girl gave the best talk. Check on the number of exact facts given.

"Good morning, 'Mary Sunshine,' how cheery you look in your pretty new ribbons."

"Thank you, father. I am so glad you like them, for mother had such a hard time to find just the right kind. She wanted pure silk ribbon because it ties so much better than a mixture of silk and cotton."

"I'm glad to know that fact, Mary, but can you tell me this morning where silk comes from?"

"Oh, father, you are always asking me questions that I know nothing about. I only know that silk ribbons come from the store and that's all. Where does it come from, father?"

"If I were to tell you, I should deprive you of the pleasure of reading one of the most interesting stories in the whole industrial world—The Story of Silk. I will make a bargain with you, instead: if you will tell me how silk is produced, I will tell you how it is manufactured, and to-morrow morning we will 'swap' stories, as the boys say."

"Agreed! father, here's my hand.'

Mary's Story of Silk Production

The chief countries in the production of silk are China, Japan, France, and Italy. Silkworm culture began in China about 2000 B.C. For centuries the Chinese carefully guarded the secret and punished by death anyone who should attempt to transport silkworm eggs out of China.

By and by two European travelers concealed some of the eggs in a hollow cane and carried them safely back to Greece; and from that small beginning, the silk industry spread all over Southern Europe.

The world's production of silk is about 80,000,000 pounds annually, which is enough silk to furnish every woman and girl in America with one or two new silk dresses a year. To produce silk enough for each dress requires the labor of about 3,000 silk worms.

The food of the silk worm consists of the green leaves of the mulberry tree. In the silk-growing districts, thousands of acres of mulberry orchards are cultivated for no other purpose, and the picking

of mulberry leaves requires the services of an army of women and children. The trees are headed low so that the leaves can be easily reached. Just as the poultryman in America coops up his hens to make them lay, so the silk grower coops up his worms and feeds them at regular intervals. They are never allowed free range.

If a visitor were to step into the hatchery, he would see a room filled with trays of caterpillars greedily devouring a meal of mulberry leaves; and he would probably observe them in different stages of development. He would learn from the keeper that the worms are always hungry and that the trays must be cleaned and fresh leaves fed to them every two or three hours. He would also see some of the egg cards. These are large cards, completely covered with tiny eggs which the keeper has carefully kept through the winter. When the mulberry trees begin to leaf out, the cards are brought into the warm hatching room. After a time the little worms appear and look like dark tiny bits of hair not over one-eighth of an inch long. They have powerful jaws and eight pairs of legs. From the egg to the cocoon stage is a period of about six weeks, and during that time the worm takes four long sleeps. The first occurs at the end of ten days, and when it wakes, it cracks open its old coat and appears in a new one.

After the fourth change, the worm has reached a length of three or four inches. In two or three days it begins to turn pale, refuses to eat, and

shrinks in size. Then the keeper sprinkles a few straws over the tray and the caterpillar is ready to begin spinning its cocoon.

Selecting a suitable place, the worm begins throwing out of its mouth a fine thread which sticks to the straws; then with a swinging motion of its head from side to side it proceeds to envelop itself in the silken threads. By the end of twenty-four hours its body is hidden and by the end of three or four days the cocoon is finished.

A certain number of the cocoons are selected for seed—that is, they are put aside to hatch into silk moths. Within these cocoons a wonderful change takes place. The body shrinks and slips out of its coat for the last time. The ten front legs give place to four, soft wings folded close to the body. When the change is completed, an opening is made in the anterior end of the cocoon and out steps a fairy moth dressed in soft, creamy white. She enjoys flying about for a few days and then begins laying her eggs. The keeper arranges the egg cards for her convenience and after she and one hundred others have deposited four hundred to five hundred eggs apiece thereon, her life work is ended and the work is taken up by the next generation.

Father's Story of Silk Manufacture

The manufacturer begins where the silkworm leaves off—namely, with the cocoon. All the worm did was to spin the fiber. The pretty little house

which the caterpillar constructed with so much care and labor must be torn apart and the fiber *reeled* before the manufacturer can begin operations.

The silkworm's house is about a half inch in length, but from it may be taken a string of fiber a half mile long! Yes, fibers have been unwound much longer than that, but more frequently they are not over one thousand feet in length. It requires about twelve pounds of cocoons to make one pound of raw silk, or possibly three thousand silkworms to produce one dress.

You know how wool is shorn from the sheep, how the fibers are first separated by carding, and then twisted into long skeins of yarn. Silk fiber has to go through a similar process.

In unwinding the cocoons they are first dipped into hot water. This kills the pupa and softens the fiber so that it will reel easily. Then the cocoons are sent to a near by factory for reeling. With a whisk broom the workman gently brushes the cocoons until he finds the ends of several long fibers. Six or eight of these loose ends are started into a machine, and the silk thread begins to grow into a long skein of silk. This is the raw silk of commerce.

Before it can be woven into cloth the raw silk must be *thrown*, that is, it must be cleaned and twisted into thread of just the right size and smoothness for the manufacture of particular kinds of silk goods. The process of *throwing* is carried on in mills built especially for the purpose.

The next step is the dyeing. The dyer boils the skeins in soap and water for two or three hours, rinses in clear water, and, drying them, proceeds to give them the required colors. The skeins are next reeled or spooled, according to the use to which they are to be put.

In the early days of the industry all silk was woven on hand looms. Of course this was a slow, laborious process and expensive, too, particularly if a figured pattern were introduced. Then a Frenchman, named Joseph Jacquard, invented a loom that made the weaving of figured goods just as easy as the weaving of plain colors. To-day the fancy patterns of plaids, or checks, or flowers are better made by machines than they could be by hand. Jacquard's invention proved to be a great boon not only to the silk industry but to the whole weaving industry; for it was found that the Jacquard loom could weave cotton and woolen goods just as well as silks, and all of these industries were greatly benefited.

America leads in the manufacture of silk goods, although practically all of the raw silk must be imported. The amount of money sent abroad for raw silk amounts to many millions of dollars annually and gives employment to hundreds of thousands of people in foreign lands.

The leading silk manufacturing states are New York, New Jersey, Connecticut, and Pennsylvania. The amount of silk thread and silk twist used daily

in America is enormous. It is said that the sewing machines alone use daily enough thread to reach around the world. These facts will give you an idea of the great industry that has been developed out of the product of a little worm. Next to cotton and wool, silk is the most valuable fiber in the world.

—*Jesse L. Smith.*

Helps to Study

The following topics set forth the points which Mary discussed with her father:

1. Where people engage in silk culture to-day.
2. How knowledge of the silk industry became known.
3. Annual silk production of the world.
4. Life of a silkworm.
5. How silkworms are propagated.

Match the paragraphs with these topics.

Take "Father's Story" and name each of the paragraphs in much the same way as indicated above.

Other Selections: Seven Little Sisters, Andrews; *When I Was a Boy in China,* Lee; *Little People Everywhere,* Jeffries; *The Story of Cotton, Silk, Wool, Flax,* Brooks; *Makers of Many Things,* Tappan.

EUREKA

If you put a piece of iron and a piece of wood into a pail of water, the iron sinks and the wood floats. Why is it?

Early man observed that wood always floated when placed in water; so he made his boats of wood, and the practice was followed for thousands of years. To-day nearly all steamships are made of steel and they float just as easily as the wooden vessels. Why is it?

For a long time this old, old question troubled Donald, as no doubt it has troubled you. But one day in his reading he came across a story about an old Greek scholar named Archimedes who found the answer to the question in a peculiar way. The story goes that a long time ago a king by the name of Hiero ruled over Sicily. Like most of his kind, he was vain and doted much on the splendor of his court. So one day he gave his jeweler an order for a crown of gold, larger and finer than any in the land.

When the crown was delivered to King Hiero, he suspected that his crown of gold had been alloyed by a fraud of his jeweler and that what seemed to be gold was not gold at all.

Thinking thus, King Hiero besought the aid of Archimedes, to ascertain if fraud had been done him.

Archimedes undertook to solve the problem, and hit upon the right solution by accident.

Upon going to his bath one day he found the tub brimming full of water. As he sat down in the tub the water ran out, and he reflected that his body had displaced an equal bulk of water. From this he reasoned that by putting the King's crown in the water, and measuring the bulk of water displaced and then weighing an equal bulk of pure gold, he would be able to tell, when the alloyed crown was weighed, how much it lacked of the proper weight of pure gold.

When the full truth of the plan dawned upon his mind, Archimedes rushed from his bathtub and exclaimed, "Eureka! Eureka!" meaning, "I have found it! I have found it!"

In this way not only was the dishonest jeweler detected and punished, but the world was taught another law of nature, namely, that a floating body displaces its own weight of liquid.

When Donald first read the story of the old Greek scholar, he thought Archimedes must have been mistaken, and he would not be satisfied until he had proved the truth of the statement by an experiment of his own. This is the way he tried it: he found a small pan and also a large can, with a spout on one side, and filled the can until water ran out of the spout.

Then he weighed the pan and found the weight to be four and one-half ounces. Next he weighed a

block of wood, before he put it into the can, and found its weight to be one and one-half ounces. Then he placed the block of wood in the can and caught the overflow of water in the pan. When he weighed the pan, he found that its weight, with the water in it, had increased to six ounces. Hence he concluded that the weight of the overflow (one and one-half ounces) was exactly the weight of the block of wood, and that Archimedes was right.

QUESTIONS

1. What things did Donald need in order to perform his experiment? 2. What did his experiment prove? 3. Why does wood float on water? 4. Why will a pan sink if placed on edge but will float on its bottom like a boat?

A SATURDAY HIKE

Two patrols of girl scouts decided to hike to the woods on Saturday to gather nuts. It was agreed that each patrol should bring lunch baskets and that the cost of the "extras" should be borne equally by all of the members.

In the Red Bird patrol were seven girls, while the Blue Birds numbered eight. The Red Birds provided olives, $.65; chocolate fudge, $1.50; and six pounds of sliced ham, $2.50. The Blue Birds brought a pound of butter, $.55; five dozen buns, $.75; two cakes, $1.60; and two dozen lemons, $.90. What was the expense to each girl?

Procedure: 1. Read the story through to see what it is all about. 2. Reread to catch the details—to see what facts are given and what ones must be found out. 3. Plan the operation. 4. Perform the work. 5. Check over your work.

ODETTE'S LETTER

A thirteen-year-old girl in France was asked by her teacher to write a theme on the coming of the Americans to help drive out the invaders. This is what she wrote:

It was a little river—almost a brook It was called the Yser. One could talk from one side to the other without raising one's voice. The birds could fly over it with one sweep of their wings. And on its banks there were millions of men, the one turned toward the other, eye to eye. But the difference which separated them was greater than that between the stars in the sky. It was the difference which separates justice from injustice.

The ocean is so great that the sea gulls do not dare to cross it. During seven days and seven nights the great steamships of America, going at full speed, must drive through the deep waters before the lighthouses of France come into view. But from one side to another hearts are touching.

—*Odette Gastinel.*

Helps to Study

1. What do you think of Odette Gastinel's letter? 2. Find some poem which you think expresses the same thought.

Other Selections: Philip's Tree, Book V; *Letters to Children from Famous People,* Colson and Clittenden; *In Flanders Field,* McRae; *America's Answer,* Hillards.

GIRL SCOUTS OF AMERICA

To a group of jolly girls in Savannah, Georgia, goes the honor of starting the movement which grew into the Girl Scouts of America. It came about in this manner:

Their brothers and boy friends were members of the Boy Scouts, and the girls looked upon their good times with considerable envy. How long would they stand idly by and watch the boys march away upon their weekly hikes? Not long, that was too much for a group of wide-awake girls to endure.

"Why not organize a troop and go on hikes ourselves?" The question was no sooner asked than answered with shouts of approval by all of the girls. And forthwith the first club of Girl Scouts was launched.

In a little while other troops were organized, and in June, 1915, the national organization was chartered.

Here is the pledge which every girl scout takes, and the laws which she promises to obey:

THE PLEDGE

On my honor, I will try:
To do my duty to God and to my Country.
To help other people at all times.
To obey the Scout Law.

SCOUT LAWS

1. A Girl Scout's Honor is to be Trusted.
2. A Girl Scout is Loyal.
3. A Girl Scout's Duty is to be Useful and to Help Others.
4. A Girl Scout is a Friend to all, and a Sister to every other Girl Scout.
5. A Girl Scout is Courteous.
6. A Girl Scout is a Friend to Animals.
7. A Girl Scout Obeys Orders.
8. A Girl Scout is Cheerful.
9. A Girl Scout is Thrifty.
10. A Girl Scout is Clean in Thought, Word, and Deed.

The four corner stones of the Girl Scout activities are headwork, handwork, health, and helpfulness.

For headwork she must first of all know the Scout promise and laws, the Girl Scout motto, "Be prepared," and the Girl Scout slogan, "Do a good turn daily." She should also know by heart the first and last verses of "The Star-Spangled Banner" and the full name of the President of the United States, the governor of her state, and the head of her city or

town government, all this before she is formally accepted as a tenderfoot scout.

For handwork she must be able to tie four sailor knots in approved fashion—the reef, bowline, clove hitch, and sheepshank—before she may be a tenderfoot. The requirement in health is knowledge of the simple setting-up exercise and tenderfoot drill. And for helpfulness she promises to try to do a good turn daily to her troop, her school, her home, or her community.

No girl may wear the Girl Scout pin, insignia, or uniform until she has met these tenderfoot requirements, and has been formally accepted as a tenderfoot scout.

There are three classes of scouts: tenderfoot scouts who must be at least ten years old; second-class scouts; and first-class scouts who cannot be over eighteen years of age.

"To promote the virtues of womanhood by training girls to recognize their obligations to God and country, to prepare for duties devolving upon women in the home, in society, and in the state, and to guide them in ways conducive to personal honor and the public good." This is the declared purpose of the Girl Scout organization. This means, to talk in simpler terms, that the girl who joins the Girl Scouts finds in this organization the incentive to prepare herself to be a citizen of the United States, and to be a vital force in her own community.

—Frances J. Jones.

A BOY'S CLOCK

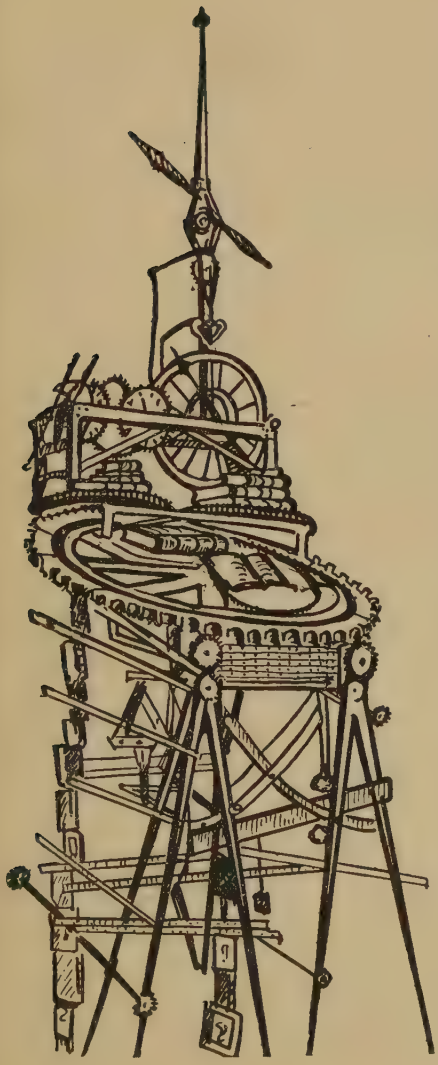
Every state has one or more distinguished sons. See if you think "distinguished" is the right word to use in this case.

"Right this way, ladies and gentlemen, to see the most interesting invention on the fair grounds! See the big, wooden clock, made by a boy in the backwoods of Wisconsin, with only a hammer and a jackknife for his tools. Without doubt, this is the most wonderful clock in the whole world, and what makes it seem all the more wonderful is the fact that the maker of this marvelous piece of machinery had never seen the inside of a clock, or a watch, before he made his first model; had never been inside of a machine shop of any kind to study the working of machinery; and whose first sight of a locomotive was the train that brought him to this fair. And yet this boy has produced a clock that will tell accurately the time of day, the day of the week, and the day of the month; will light the lamp in the morning and start the fire while he slumbers in peace; and finally, at the appointed hour, will roll him out of bed in time for breakfast without any assistance from his father. These are just a few of the many acts this remarkable clock can do. It will perform almost anything he wishes, except to eat; he prefers to do that act himself."

The speaker was one of the officials of the fair, and the clock he described was made and exhibited at the Wisconsin State Fair in 1870 by a boy named John Muir. Both the clock and its inventor in after years attained wide fame, and to-day his name is known and loved wherever people love to read books on science and nature.

John Muir was a Scotch lad who came to America in 1849 when he was eleven years old. The place selected by the father for their new home was in a Scotch settlement in southern Wisconsin. The region was one of dense forests, and the new home had to be literally "chopped out of the woods." "Oh, that glorious Wisconsin wilderness! Everything new and pure in the very prime of the spring when Nature's pulses were beating highest and mysteriously keeping time with our own! Young hearts, young leaves, flowers, animals, the winds and the streams and the sparkling lake, all wildly, gladly rejoicing together!"

The first house was a log house, and the first crops were planted among the stumps of newly cleared land. In this almost endless work of chopping down trees, sawing out logs, piling up brush, grubbing out stumps, and burning the huge piles of brush and dead timber, John did a man's part. From sunrise till dark the work went on, day after day and year after year. There was no time for play and no time for school, not even in winter. The work had to be done, and John's father saw



to it that his two sons never wanted for work. He believed that hard work, and plenty of it, was the very best training a boy could receive. That was the stern Scotch manner of discipline.

One evening John came across something in his reading that particularly interested him and he asked, as many another boy has done, for permission to read a few minutes longer —to the end of the chapter.

"John," said his father in strong Scotch accent, "if ye maun read, git up in the mornin'. Noo to bed. Gude nicht."

John took his father at his word, and exactly at one

o'clock the next morning was out of bed, ready to devour as much of the book as possible before breakfast. The house was too cold for comfort, and he dared not build a fire for fear of disturbing his father, so he went quietly to the cellar where by the light of a candle he could read his beloved book undisturbed. And this operation he repeated morning after morning for the rest of the winter. Neither lack of sleep nor cold of cellar could keep him from his heart's desire. His father thought the boy had gone crazy, but could raise no objection; he had given his word.

Something in his reading suggested to the lad the making of a clock. Straightway he began reading and studying and drawing plans for such a timepiece as he thought he could make with the tools and material about the place. As soon as he had decided upon this undertaking, his whole mind became absorbed with the idea. He thought clocks and dreamed clocks until he could see just how every part was to be made and just what work each wheel was to perform; then he went to work. The cellar served for a work shop and a big jackknife was his principal tool.

From a pile of hickory slabs John selected such pieces as suited his needs and outlined on them the various wheels and cams of the clock. Then he was ready to whittle out the parts. As with his books, so with his invention; his enthusiasm for it called him from his dreams at one o'clock in the morning and

gave him five hours of uninterrupted pleasure. Sometimes he carried a wheel in his pocket and whittled at it during spare moments. As each part was finished, it was carefully concealed behind a bed upstairs lest a stern father should take offense and put an end to his "piece of foolishness."

After months of patient toil, the clock was completed and set going. At once it attracted attention, and neighbors came from miles around to see the queer machine and to wonder at the tricks which its inventor could make it perform.

"It's a regular curiosity," said one of John's enthusiastic admirers. "You ought to take that to the state fair, John. It would be one of the chief attractions, and, no doubt, the officials would pay you well for exhibiting it there. I'll let you have the money for the trip."

The offer was accepted, and the following September young Muir shouldered his curious contrivance and started for the nearest railway station, bound for the fair. When the train arrived, John carried his clock to the baggage car and offered to put it aboard.

"You can't put that infernal machine in here!" said the baggageman, eyeing young Muir with suspicion, "not as long as I have a wife and baby dependin' on me. What is that thing, anyhow?"

"It's only a clock," replied John, and perfectly harmless. May I put it aboard?"

"Oh, yes, certainly, if that's all it is. I thought it might be some kind of a machine for blastin' out

stumps. It's goin' to Madison, is it, to the state fair?"

Assured that it was, the baggageman promised to take good care of the clock, and John turned his attention to other things. It was to be his first ride on a train, and the one thing that interested him most was what made the train go. He sought and obtained permission to ride on the engine so that he might watch the machinery work; and in this manner he completed his journey.

The young exhibitor was cordially received at the fair grounds and given the best location in the Hall of Fine Arts to show his invention. It was here that the scene took place described in the beginning of our story. As his friend predicted, the clock proved to be one of the chief attractions. Thousands of visitors stopped to admire the boy's invention and to laugh at its odd antics. And for his unique entertainment John received the large sum of five dollars a day!

It was at the fair that John Muir first learned of the University of Wisconsin and the opportunities that it offered for obtaining an education. "Alas, they are not for me," he sighed. "An education costs money, and I have none to spare."

"You might board yourself," suggested a new acquaintance. "You can live on bread and milk; that's the way several of us are doing in South Hall. You can get along somehow. Think it over." And he did.

A few months later John Muir with his wooden clock and a few other belongings applied for admission to the university. He had not been in school since he came to America, but somehow the university had learned of the boy with the wonderful clock and made his entrance easy.

The new student took his work seriously and studied almost incessantly. In order that he might not waste too much time in sleep, he arranged with Pat, the janitor, to give him an early call; when Pat came to poke up the fires in the early morning, he was to give a few gentle tugs on a string which hung to the ground outside of Muir's bedroom window. The plan worked all right until some mischievous students grew curious about that string. Luckily for John Muir, the string broke, or he might have been wanting a big toe for the rest of his life.

That experience taught John a lesson. He would depend upon himself thereafter. He would use the big wooden clock to regulate his hours of study and of sleep! So he made a bed with three long legs, two stiff ones at the head and a leg with a knee in it at the foot of the bed. When in use, the bed stood level, but when the knee went out from under it, the occupant rolled onto the floor. The knee was kept stiff by a wooden pin from the top of which a stout cord, with a heavy stone on the end of it, ran over to the clock.

On a shelf above his bed stood the lamp; beneath it was a wooden arm holding a match in the end of

it and operated by another weight and cord to the clock. In striking a light the match was drawn across a piece of sand paper and then applied to the wick. A similar contrivance dropped a lighted match upon the kindling in the stove and presto! there was a fire.

Before retiring the master of all of this machinery set his clock to arouse him at five o'clock. Exactly at that hour the clock would drop the stone—and John out of bed. Other stones would drop and light the lamp, start the fire, and heat the wash basin of water.

Still another curious device in this student's room was his study table. This also was operated by the big clock. "It didn't look much like a student's table. The legs were made of wooden compasses and wooden books. The top was slanting and made of a series of cogwheels with the big wheel, fourteen inches in diameter, in the center. It was cut through the center into equal halves. Beneath the wheels was a car, divided into stalls for holding the books."

In using his mechanical study table, Muir arranged the books in the order in which he wished to study them, adjusted the wheels to the number of minutes allotted each book, mounted a high stool, and awaited his books. The clock would move the car along, push a book up into place and open it for study. When time was up, this book would drop down and another take its place. In like manner each book in the car would appear and disappear.

Muir devised this table he said to make himself more orderly and more regular in his habits of study.

John Muir was called a mechanical genius. He could repair any kind of a machine and make a machine to do almost any kind of work one could wish. During his college days he contrived about fifty different kinds of curious machines, and his room became one of the show places of Madison.

While a student at the university, he boarded himself and earned money at anything he could find to do. His food consisted mostly of bread and molasses, graham mush, and occasionally a potato which the janitor kindly allowed him to bake on the hot coals of the furnace. In summer he worked on farms, and in winter taught a short term of school. In this manner he maintained himself for four years at the university. He left without graduating. "I was far from satisfied" he says, "with what I had learned and should have stayed longer. Anyhow I wandered away on a glorious botanical and geological excursion that has lasted more than fifty years."

"From the top of a hill on the north side of Lake Mendota, I gained a last wistful, lingering view of the beautiful University grounds and buildings where I had spent so many hungry and happy and hopeful days. There with streaming eyes I bade my blessed Alma Mater farewell: But I was only leaving one university for another—the University of the Wilderness."

Had Muir pursued the field of mechanics, it is said

that his success would have been as great as that of Edison. Instead, he chose the realm of science and exploration. To his labors in these fields, America is largely indebted for her knowledge of Alaska and for the preservation of the great trees in California and of Yosemite Falls.

Helps to Study

I. Read the first paragraph. When you finish indicate by looking at your teacher. Wait quietly until all are through. Think over what you have read. Follow this plan throughout the story.
   1. What is a good name for this paragraph?
   2. What is the "key" or main sentence?
   3. Give the illustrations used to strengthen the main thought.

II. Read the next six paragraphs as rapidly as you can get the thought.
   1. Name this part of the story.
   2. What points are given to strengthen the picture of simple home life?
   3. Read the sentences which indicate at least two qualities of fine character in the lad.

III. Read the paragraphs which give the title to the story.
   1. Why was John Muir called a mechanical genius?
   2. Get all the details which show his skill in clock-making, and the use he made of his invention.

IV. Complete the reading of the story.
   1. What is a good name for this part?
   2. In what ways did he meet expenses at the University?
   3. What contribution has this man of genius made to the world?

Other Selections: The Old Clock on the Stairs, Longfellow; *How a Town was Saved by a Clock*, Smith; *The Wonder Clock.*

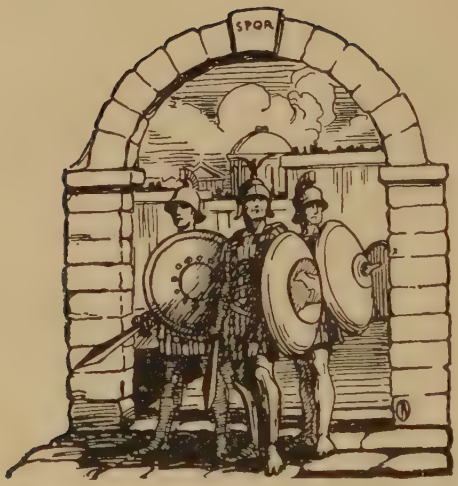
AMERICA, THE BEAUTIFUL

O beautiful for spacious skies,
For amber waves of grain,
For purple mountain majesties
Above the fruited plain.
America! America! God shed His grace on thee,
And crown thy good with brotherhood
From sea to shining sea.

O beautiful for heroes proved
In liberating strife,
Who more than self their country loved,
And mercy more than life.
America! America! May God thy gold refine,
Till all success be nobleness
And ev'ry gain divine

O beautiful for patriot dream
That sees beyond the years
Thine alabaster cities gleam
Undimmed by human tears,
America! America! God shed His grace on thee,
And crown thy good with brotherhood
From sea to shining sea.

—*Katherine Lee Bates.*



STORIES OF EARLY ROME

Do you like patriotic songs and stories? Do you suppose that hearing and singing about our country's heroes makes us more patriotic? The Roman mothers thought so.

According to the old legend Rome was founded by Romulus and Remus who, as children, were nourished by a she-wolf.

Be that as it may, the Romans first appear upon the pages of history about 700 B.C. Their stronghold was the city of Rome, on the south banks of the Tiber. Their sturdiest rivals were the Etruscans, on the north banks of the river; and between the two neighbors there was eternal hatred.

It is said that every Roman mother desired her son to become a soldier and a patriot—to live for his country if possible, but to die for it if necessary;

and to that end, she poured into his ears from earliest childhood stories of the daring and heroism of the illustrious sons of Rome. Two of these household favorites are given below, and, strangely enough, they have to do with the age-long strife between the Etruscans and Romans.

I

"Lars Porsena of Clusium
By the nine gods he swore
That the great house of Tarquin
Should suffer wrong no more."

So Porsena, chief of the Etruscans, summoned his forces and marched to the attack on Rome. From the watch towers, the Roman sentinels saw the enemy approaching, burning the villages and laying waste the fields. The Etruscans numbered sixty thousand footmen and ten thousand horsemen; the Romans, a mere handful of men within the gates of the city.

There was no time to lose. A meeting of the City Fathers was called and the Consul (Mayor) speaking for them declared:

"The bridge must straight go down;
For since Janiculum is lost,
Naught else can save the town."

"Then out spake brave Horatius
The Captain of the Gate:
" 'Hew down the bridge, Sir Consul,
With all the speed ye may;
I, with two more to help me,
Will hold the foe in play.

In yon straight path a thousand
May well be stopped by three.
Now who will stand on either hand,
And keep the bridge with me?' "

Immediately two volunteers were at his side, and the three warriors took their places at the far end of the bridge. Meanwhile, other soldiers and citizens worked furiously to cut down the bridge.

The foe approached amidst a great shout of laughter. Three chieftains with drawn swords sprang forward. They were immediately cut down. Others took their places, only to suffer a like fate. The mortal combat went on. Horatius was wounded, but returned to the fight. All three were weary and their strength nigh spent, when lo! a cry was heard:

" 'Come back, come back, Horatius!
Back, ere the ruin fall!' "

Back flew his two companions, and Horatius stood alone. A moment later the bridge fell, and then the brave Horatius, "Plunged headlong in the tide."

"And oft they thought him sinking,
But still again he rose"
And struggled with the current
As did he with his foes.

"And now, with shouts and clapping,
And noise of weeping loud
He enters through the River Gate,
Borne by the joyous crowd."

Thus Rome was saved, and the name of Horatius rendered immortal.

II

Mothers used to say to their sons: "Let nothing make you afraid in the cause of Rome. Let nothing shake your determination, just as nothing could daunt the noble youth, Caius Mucius. He had tried to kill the king of Etruria, for Etruria was at war with Rome and would have put a king over her once more.

"When Mucius was caught, carrying the very dagger with which he had meant to kill the king, he would tell no Roman secrets. The King thought to frighten him and had fires built all about him, threatening to push them closer if the young man did not tell his secret.

" 'Behold me,' cried Mucius, 'that you may see of how little account the body is to those who have great glory in view.' Then he thrust his right hand into the fire and held it there until it was burned off. 'There are three hundred young men like me, waiting to kill you if I fail,' he said. Such courage and such devotion moved the cruel King to set Mucius free."

Stories like these, learned at the mother's knee, portrayed in bronze figures in the market place, or shown in the rich carving on public buildings, bred in the Roman youth a sense of pride in the history of his country, and a spirit of such courage and confidence as enabled Rome at last to conquer the world.

—After Mahaffey.

Why cod fisheries hold an important place in the food industry.

Cod is one of the world's most important food fishes, common to both shores of the North Atlantic Ocean, as far south as France and Virginia. It is a near relative of the hake and haddock, but is more valuable than either of these. The cod fisheries along the Grand Banks of Newfoundland and the shores of New England are famous. The prosperity of Newfoundland, one of Great Britain's oldest colonies, depended for many years solely on cod fishing, and salted fish was used in trade like money.

The importance of the cod in the early history of the United States is shown in the fact that it had a place on the seal of the Massachusetts Colony, and to-day a gilded codfish hangs in the state house of representatives opposite the speaker's desk between two central columns. The abundance of the fish

along the eastern shores of America was noted by the early voyagers and recorded in the stories of their travels.

Description. The cod has a slightly flattened body, which tapers abruptly to the tail, and is usually greenish or olive on the back and sides, which are dotted with numerous small brown spots. The larger fish weigh from twenty to thirty-five pounds; the smaller, about twelve pounds. However, some extraordinary specimens have been caught; the largest ever captured off the New England coast weighed two hundred eleven and one-half pounds and was over six feet long; and there are records of others that weighed from one hundred to one hundred seventy-five pounds.

Judging from the things found in the stomachs of captured fish, such as scissors, oil cans, rings, rocks, potato parings, corncobs, rubber, and leather, the cod will eat anything. Its more natural diet consists of crustaceans (lobsters, shrimps, crabs, etc.), mollusks, small fishes, and various forms of vegetation.

The fish spawn along the northern coasts of Europe, in February, March, and April; the spawning period on the American coast lasts from November to April. The number of eggs produced by the cod is astonishing; and if all of them from a seventy-five pound fish during its life should hatch and grow to maturity, the ocean would be filled with an almost solid mass of cod. A cod weighing twenty-one pounds will produce 2,700,000 eggs in one spawning

period; these are so small that it takes 337,000 of them to fill a quart pail. Because large numbers of eggs are destroyed before they hatch and millions are eaten by other fishes, cod do not multiply so rapidly as might be assumed; in fact, artificial propagation is often necessary, and this is one of the most important labors of the fish commissions.

The Fisheries. The chief cod fisheries of the world are those of Norway and Sweden, Great Britain, France, Canada, Newfoundland, and the United States. The value of the annual catch for the United States averages about $3,500,000; that for Canada, $8,368,000. American fishermen usually go to the Grand Banks of Newfoundland (ridges in the ocean where the water is only a few hundred feet in depth) and to the Georges' Banks, off Cape Cod. Nearly all of the six hundred, or more, ships of the United States cod fishing fleet hail from Gloucester, Mass., the headquarters of the industry.

The fishermen start out in swift little schooners, which have attached to them two or three row boats, called dories. When the fishing grounds are reached, they set their trawls, which are long lines anchored at both ends and held up by buoys. To these trawls smaller lines with baited hooks are fastened every few yards. A few hours later some of the men visit the trawls in dories and remove the cod which has been caught on the hooks; they then carry the fish back to the schooner, and when the vessel has received a load, it returns to port.

Codfish is usually sold salted and dried. Cod-liver oil, obtained from the liver of the fish, is taken by persons who are ill-nourished and need building up. About 30,000,000 pounds of dried codfish are prepared each year in the United States; but the export trade is for the most part carried on by Norway, Newfoundland, and Canada. The chief markets of the world are France, Spain, Portugal, Italy, and Brazil.

—From *The World Book.*
Courtesy, W. F. Quarrie and Company.

Helps to Study

There are at least four main reasons given why cod fisheries are considered important. The following outline will help you to organize your facts, and will assist you in formulating a summary. Fill in the details as you read.

1. Location of cod fisheries and their importance:
1. Location of cod fisheries:
   a.
   b.
   c.
2. Description of the cod:
   a.
   b.
   c.
3. Fishing fleets:
   a.
   b.
4. Markets and export trade:
   a.
   b.
5. Summary.

Things to Do

1. Use your map or atlas and locate all places mentioned. Use your dictionary for hard words. 2. Use your reference text to learn more about the work of the Fish Commission. 3. Make three arithmetic problems—using data indicated as: How much more valuable is cod fishing to Canada than U. S.?

Other Selections: How We are Fed, Chamberlain; *The Cod Fisherman,* J. Russell Smith; *The Boy with the U. S. Fisheries,* Rolt-Wheeler; *Dr. Grenfell's Parish,* Duncan.

A TRIP DOWN A COAL MINE

What Sandy learned of service, and how he made use of it. The answer to the first part, you will find in the story; to the second part, by "reading between the lines."

Sandy had come to live in Cromwell, near which were some of the largest coal mines in America. His father, Robert Cary, was a pit foreman in one of the mines and Sandy often accompanied him to the mine shaft in the morning.

Here he saw workers of many nations; there were negroes from the south; dark, stocky men from Greece; light-haired, blue-eyed workers from Norway and Sweden; copper-colored men from Egypt; big, rugged toilers from Bulgaria, and long, bearded giants from Russia. It was always an interesting sight to him when the three hundred men came out of the washhouses, dressed in their worn out, greasy overalls, and all ready for the day's work. They would pass by the power house, cross the tracks, where waited the empty railroad cars for their loads of coal, and go through a gate where each one would give his number to the checker who wrote down in a book the names of those who were to go into the mine.

Sandy often wondered what became of them after they passed through the gate. He wished that he

might go with them for a day and learn how coal was mined. He knew that they went down a shaft on an elevator to the place where the coal is found, for he had often talked with the engineer, who ran the hoisting cage, about his work. He saw the cage lowered by means of long steel ropes wound around a great drum. The engineer sat beside a long lever by which he controlled the lowering of the cage or elevator. In front of him was a dial which looked like the face of a clock. When the cage was to be lowered, he pulled back the lever, and the steel rope would unwind. This rope was fastened to the top of the elevator. As the rope uncoiled, he would watch the dial before him. When the hand on this dial pointed to 400 feet he would push back the lever and with his foot would press down on a foot brake. In this way he stopped the elevator at the right level.

One night Mr. Cary told Sandy to go to bed early, for to-morrow he was, at last, to find out how coal was mined. The boy was wild with joy and could scarcely wait until morning for the great adventure. He was up bright and early, for he had to be at the mine's mouth by half-past six in order to go down with the workmen. While he ate breakfast his mother prepared the noonday lunch. Sandy had put on his oldest clothes and was ready for the journey when his father called him.

This morning he experienced the joy of lining up with the men and passing through the gate to the building directly over the main shaft. Here he saw

the cage, or elevator, on which the men were lowered into the mine. It was a great steel box four stories high. The lowest story was loaded with men first, and the cage was dropped until the next floor was level with the loading platform. In this way each room of the cage was filled. Sandy and his father with nine others filled the first or lowest story. As soon as the elevator was filled, the engineer outside pulled his lever toward him, the big drum began to turn, the steel rope to unwind and the cage sank slowly down the mine shaft. In a moment, daylight was gone and the only light in the cage came from the torches which the men wore on their caps.

It seemed a long while to Sandy before the cage stopped and he and his father passed out of the hoist into the mine. He could see a long tunnel before him with a low roof crossed by large mine timbers which in turn were held up by great sections of tree trunks.

Down this tunnel Sandy and his father followed the miners until they came to a side tunnel. Here two miners turned in. Mr. Cary asked these men to take Sandy with them to the place where the coal was loaded. As he passed down this side tunnel, Sandy noticed for the first time two steel rails fastened to wooden ties on the floor and a trolley wire overhead. Upon asking the miners about this, he was told that the coal was hauled out to the main shaft in cars drawn by an electric locomotive.

At last they came to the end of the tunnel. Here

was a great pile of coal which had been blasted out the night before. The miners told Sandy that an electrical machine was used to cut an opening into the face of the tunnel level with the floor and several inches high. After this was done, deep holes were drilled at the top and sides of the coal vein. These holes were filled with powder and during the night the coal was blasted down.

The men began to work immediately with great shovels throwing the coal into a square iron car which stood on the tracks near by. When the car was filled, the electric locomotive came and hauled it away. Sandy was permitted to ride on the car to the bins. First, it was hauled to the scale-house where the coal was weighed, for the men were paid for each ton of coal mined instead of by the day.

After the coal was weighed it was dumped into a huge bin under the rails. From these bins great buckets lifted the coal up through a shaft to the ground above and then to a high tower where the buckets were emptied. Out of these buckets the coal rolled, over great screens, or sifters, which separated the lumps of different sizes, and then it rolled down into the railroad cars beneath. This Sandy knew already, for he had watched the sifting of the coal with wondering eyes many times.

Sandy rode back into another tunnel with the man who was running the electric locomotive. This man told him that there were very few mines as fine as this one. In most of them the coal was hauled

in little cars drawn by mules who lived in the mines all their lives and never saw the light of day.

The air in the tunnel was cool and fresh, and Sandy asked his friend how this could be. The man told him that in one of the buildings above ground a great fan pumped air into the mine much as the fan drove the air into the many rooms of the school building to which Sandy went daily. This fresh air is driven down a shaft and into every tunnel of the mine. Inspectors went through the tunnels every day to test the air to see if any deadly gas was present. This they did by means of a light which exploded the gas much as a fire cracker explodes.

Sandy learned many other things about which I have not time to tell now. At the close of the day he was glad to enter the cage and be hauled up to daylight, green trees, singing birds, and the setting sun.

—*C. J. Anderson.*

Helps to Study

Read this story *three* times, each time for a different purpose:

1. Read it once to get the shift in the scenes, that is, the picture contained in each paragraph or group of paragraphs. Name each picture.

2. Read the story a *second* time to note the questions which come to mind, as you read, such as, "Where are the largest coal mines in America?" "How do the coal miners live?"

3. Read the story a *third* time to get an appreciation of what each worker does.

Other Selections: Geographical Readers, Carpenter; *Diggers in the Earth,* Tappan.

THE STORY OF A STONE

Did you ever gather pebbles on the seashore and wonder what made them so smooth? Did you ever see a rock all scratched and marred and wonder how it got its scratches? Did you ever come upon a boulder in a field, and wonder where it came from? This "Story of a Stone" will set you thinking harder than ever. Find out where it was, what it was once upon a time, and what will become of it.

Once on a time, a great many years ago, in those old days when the great Northwest consisted of a few ragged and treeless hills full of copper and quartz; in the days when it would have been fun to study geography, for there were no capitals or any products, and all the towns were seaports; in fact, an immensely long time ago, there lived in the northeastern part of Wisconsin, not far from the city of Oconto, a little jellyfish.

It was a curious little fellow, about the shape of half an apple and the size of a pin's head; and it floated around in the water and ate little things, and opened and shut its umbrella pretty much as the jellyfishes do now on a sunny day off Nahant Beach, when the tide is coming in. It had a great many little feelers that hung down all around, like so many little snakes, and so it was named Medusa, after a queer woman who lived a long while ago, according to an old story. She wore snakes instead

of hair, and used to turn people into stone images if they dared to make faces at her.

So this little Medusa floated around and opened and shut her umbrella for some time. Then one morning, down among the seaweeds, she laid a whole lot of tiny eggs, transparent as crab-apple jelly, and smaller than the dewdrop on the end of a pine leaf. That was the last thing she did; so she died, and our story henceforth concerns only one of those little eggs.

One day the sun shone down into the water and touched these eggs with life, and a little fellow whom we will call Favosites, because that was his name, woke up inside of the egg and came out into the world. He was only a little piece of floating jelly, shaped like a cartridge pointed at both ends, or like a grain of barley, although very much smaller.

He had a great number of little paddles on his sides. These kept flapping all the time, so that he was constantly in motion. And at night all these little paddles shone with a rich green light, to show him the way through the water. It would have done you good to see them some night when all the little fellows had their lamps burning at once, and every wave as it rose and fell was all aglow with Nature's fireworks, which do not burn the fingers and leave no smell of sulphur.

So the little Favosites kept scuddling along in the water, dodging from one side to the other to avoid the ugly creatures that tried to eat him. There

were crabs and clams of a fashion neither you nor I shall ever see alive. There were huge animals with great eyes, savage jaws like the beak of a snapping turtle and surrounded by long feelers. They sat in the end of a long round shell, shaped like a length of stovepipe, and glowered like an owl in a hollow log, and there were smaller ones that looked like lobsters in a dinner-horn.

But none of these caught the little fellow, else I should not have had this story to tell. At last, having paddled about long enough, Favosites thought of settling in life. So he looked around till he found a flat bit of shell that just suited him. Then he sat down upon it and grew fast.

He did not go to sleep, however, but proceeded to make himself a home. He had no head, but between his shoulders he made an opening which would serve him for mouth and stomach. Then he put a whole row of feelers out, and commenced catching little worms and floating eggs and bits of jelly and bits of lime—everything he could get—and cramming them into his mouth.

He had a great many curious ways, but the funniest of them all was what he did with the bits of lime. He kept taking them in, and tried to wall himself up inside with them, as a person would stone a well, or as though a man should swallow pebbles and stow them away in his feet and all around under his skin, till he had filled himself all full.

Little Favosites became lonesome there on the bottom of that old ocean, among so many outlandish neighbors. So one night, when he was fast asleep and dreaming as only a coral animal can dream, there sprouted out from his side somewhere near where his sixth rib might have been, if he had had any ribs, another little Favosites; and this one very soon began to eat worms and to wall himself up, as if for dear life.

Then from these two, another and another little bud came out, and other little Favosites were formed. They all kept growing up higher and cramming themselves fuller and fuller of stone, till at last there were so many and they were so crowded together that there was not room for them to grow round, and so they had to become six-sided, like the cells of a honeycomb.

Once in a while some one in the company would feel jealous because the others got more of the lime, or would feel uneasy at sitting still so long and swallowing stones. Such a one would secede from the little union without even saying "good-bye," and would put on the airs of the grandmother Medusa, and would sail around in the water opening and shutting its umbrella, and at last would lay more eggs which in time hatched out into more Favosites.

So the old Favosites died or ran away or were walled up by the younger ones, and new ones filled their places, and the colony thrived for a long while, until it had accumulated a large stock of lime.

But one day there came a freshet in the Menominee River, and big piles of dirt and sand and mud were brought down, and all the little Favosites' mouths were filled with it. This they did not like, so they died; but we know that the rock-house they were building was not spoiled, for we have it here.

II

But it was tumbled about a good deal in the dirt, and the rolling pebbles knocked the corners off and the mud worked into the cracks and its beautiful color was destroyed.

There it lay in the mud for ages, till the earth gave a great long heave that raised Wisconsin out of the ocean, and the mud around our little Favosites packed and dried into hard rock, and closed it in. So it became part of the dry land, and lay imbedded in the rock for centuries and centuries, while the old-fashioned ferns grew above it and whispered to it strange stories of what was going on above ground in the land where things were living.

Then the time of the first fishes came, and the other animals looked in wonder at them, as the Indians looked on Columbus. Some of them were like the little garpike of our river here, only much larger—big as a stovepipe, and with crust as hard as a turtle's. Then there were sharks of strange forms, and some of them had teeth like bowie knives, with tempers to match. The time of the old fishes came and went, and many more times came and went, but still Favosites lay in the ground at Oconto.

Then came the long, hot, wet summer, when the mists hung over the earth so thick that you would have had to cut your way through them with a knife; and great ferns and rushes big as an oak and tall as a steeple grew in the swamps of Indiana and Illinois. Their green plumes were so long and so densely interwoven that the man in the moon might have fancied that the earth was feathering out. Then huge reptiles with huge jaws and teeth like cross-cut saws, and little reptiles with wings like bats, crawled and swam and flew.

But the ferns died, and the reptiles died, and the rush trees fell in the swamps, and the Illinois and the Sangamon and the Wabash and the other rivers covered them up. They stewed away under layers of clay and sand, till at last they turned into coal and wept bitter tears of petroleum. But all this while Favosites lay in the rocks in Wisconsin.

Then the mists cleared away, and the sun shone, and the grass began to grow, and strange animals came from somewhere or nowhere to feed upon it. There were queer little striped horses, which had three or four hoofs on each foot and were no bigger than Newfoundland dogs. There were great hairy elephants with teeth like sticks of wood. There were hogs with noses so long that they could sit on their hind legs and root, and there were many still stranger creatures which no man ever saw alive. But still Favosites lay in the ground and waited.

So the long, long summer passed by, and the

autumn and the Indian summer. At last the winter came, and it snowed and snowed, and it was so cold that the snow did not go off till the Fourth of July. Then it snowed and snowed till the snow did not go off at all. And then it became so cold that it snowed all the time, till the snow covered the animals and then the trees and then the mountains.

Then it would thaw a little and streams of water would run over the snow. Then it would freeze again and the snow would pack into solid ice. So it went on snowing and thawing and freezing till nothing but snowbanks could be seen in Wisconsin, and most of Indiana was fit only for a skating-rink.

So it went on for a great many years. Then the spring came, the south winds blew, and the snow began to thaw. Then the ice came sliding down from the mountains and hills and from the north toward the south. It went on tearing up rocks, little and big, from the size of a chip to the size of a house, crushing forests as you would crush an eggshell and wiping out rivers as you would wipe out a chalk-mark. So it came pushing, grinding, thundering along, not very fast, but with tremendous force, like a plow drawn by a million oxen, for a thousand feet of ice is very heavy.

And the ice-plow scraped over Oconto, and little Favosites was torn from the place where he had lain so long; but by good fortune he happened to fall into a crevice of the ice where he was not much crowded, else he would have been ground to powder and I

should not have had this story to tell young readers.

And the ice melted as it slid along and it made great torrents of water, which as they swept onward covered the land with clay and pebbles. At last the ice came to a great swamp, overgrown with tamarack and balsam. It melted here, and all the rocks and stones and dirt it had carried—little Favosites and all—were dumped into one great heap.

It was a very long time after, and man had been created, and America had been discovered, and a great many things had happened, when one day a farmer living in Wisconsin was plowing up his clover field to sow his winter wheat. He picked up in the furrow a curious little bit of "petrified honeycomb," a good deal worn and dirty, still showing plainly the cells and the beebread. He gave it to one of his boys to take to his teacher to hear what he would say about it. And this is what he said.

—*David Starr Jordan,*
From *Science Sketches,*
Courtesy, A. C. McClurg and Company.

Helps to Study

1. Read Part I in four minutes to find out where the little jellyfish, Favosites, lived, and the important facts of his early life. 2. What is the most interesting fact? 3. Read Part II and give it a suitable title.

Other Selections: The Strange Adventures of a Pebble, Hawksworth; Glaciers, Soils, Coral,—Any Good Geography Text; *Pebbles,* Sherman; *Year Out of Doors,* Sharp.

LOUIS PASTEUR

Find out why this Frenchman, Louis Pasteur, is entitled to a place among the world's greatest heroes and benefactors. In which way did he show himself a hero? In what ways a benefactor?

If you were to ask the name of America's greatest hero, the answer would probably be, "George Washington." If you were to put such a question to a Frenchman, he would probably shrug his shoulders and reply, "Ah, among so many, how can one choose?" Nevertheless, France has one son whose services to his native land, and to all humanity, entitle his name to a place among the world's greatest heroes and benefactors—Louis Pasteur.

When Louis was a child, he once saw a blacksmith burn with a hot iron the wounds of a man that had been bitten by a mad wolf. The man recovered, but eight other victims of the wolf's attack went mad and died. This scene impressed itself deeply upon the boy's memory, and years afterwards when he began his experiments upon mice and rats to learn the cause of disease, he had in mind that awful scene of his boyhood and hoped to find a cure for the dread disease called *rabies*.

One of the first discoveries was a cure for chicken cholera. Pasteur prepared some medicine, called vaccine, and injected a few drops of it into the skin

of a healthy chicken under the wing. This vaccine caused the chicken to have a mild form of cholera, from which it quickly recovered. Such a chicken was said to be vaccinated; and if allowed to run with other chickens, sick with the cholera, it would not "catch" the disease. This discovery made the name of Pasteur famous.

His next experiments were made upon dogs. Three months later he was able to announce with certainty that his experiments had been successful and that *rabies*, one of the worst diseases known to mankind, was at last conquered. This piece of good news soon traveled around the world and added greatly to the reputation of the young scientist.

A few weeks after this announcement, a most distressing thing happened in one of the small villages of France. A small boy named Joseph Meister, while on his way to school one morning, was attacked by a vicious dog and thrown to the ground. His frantic screams reached the ears of a bricklayer who quickly came to the rescue and succeeded in driving away the dog, but not until the animal had bitten the child in fourteen places about the hands and face.

The injured boy was carried immediately to a doctor's office where his wounds were washed and bandaged, and the little fellow made as comfortable as possible. But, alas, the dog was mad! and although the good doctor cauterized the wounds,

he had no hope of saving the boy's life. "Unless Pasteur can save him," he told the boy's parents, "his life is doomed. Take him to Pasteur; it's your only hope."

Two days later an anxious mother with a very sick boy called at Pasteur's office and explained her mission. Pasteur examined the little patient and then held a hasty conference with his two assistants. The question he put to them was this: "If this new serum (medicine) will prevent a healthy dog from catching *rabies*, why will it not do as much for a child?"

"It will!" replied his friends, "and it is the only hope now of saving the boy's life. Try it!"

Soon a room was prepared for the boy and his mother. A few drops of the serum were injected into the boy's arm and he was put to bed. Instead of growing worse, Joseph steadily grew better. Within a few days he was allowed to play among the cages of guinea pigs, rabbits, chickens, and mice which Pasteur kept in his laboratory to experiment upon; and in a few weeks he was allowed to return home—cured. And the whole world rejoiced at the good news.

In the fall of the same year six little shepherd boys were watching their flocks in a meadow. Suddenly they saw a large dog coming down the road with hanging tongue and frothing mouth. "A mad dog!" they cried and started to run. The dog took after them. Jupille, the oldest boy,

turned back and fought bravely to protect his younger companions. He wrestled with the dog and finally succeeded in throwing it and tying its jaws shut with a whiplash. Then he dragged the brute to the creek and drowned it. In the struggle, the dog had set his teeth into Jupille's left hand and torn it badly. At once the boy sought medical aid. The kind doctor praised Jupille for his bravery, but said that without a doubt the wound was made by a dog with *rabies*. Six days later the boy was treated by Pasteur, and shortly afterwards fully recovered.

Soon the great scientist's name was known and his work commended by physicians throughout the world. Within a month four little Americans, children of a poor laborer, were sent to him for treatment. The youngest was a boy five years old. When Pasteur pricked his arm with a needle, he said, "Is that what we came so far for?" All of them recovered. When they returned to New York, the citizens crowded the docks and acclaimed them wildly.

Pasteur was very fond of children and often exchanged letters with his little friends. In a letter to Jupille, he wrote:

"*My dear Jupille,*

I have received your letter and am much pleased with the news you give me of your health. Every one at the Laboratory (Pasteur's office) joins with me in wishing that you keep well and that you improve as much as possible in reading, writing,

and arithmetic. Your writing is already much better than it was, but you should take some pains with your spelling.

Where do you go to school? Who is your teacher? Do you work at home as much as you might? You know that Joseph Meister, who was the first to be vaccinated, often writes to me; well, I think that he is improving more quickly than you are, though he is only ten years old. So, mind you take pains; do not waste your time; and listen to the advice of your teachers and of your father and mother.

As ever, your affectionate friend,

LOUIS PASTEUR."

It would take too long to tell of the many other discoveries of this great scientist. Only to name them would require considerable time and space. But of course, all children have heard of pasteurized milk. It was he who discovered this method of preserving milk. The method is simple; by heating milk to a temperature of 130 degrees and keeping it there for ten to thirty minutes, the germs that cause the milk to ferment (to sour) are killed, and the milk keeps sweet much longer than it otherwise would.

Pasteur also saved the silk industry of France. It had grown to be worth many millions of dollars annually, when, all of a sudden, some disease began to attack and kill the silk worms. The scourge spread rapidly. Unless it could be checked, the silk industry was doomed. The government sent for Pasteur. He went into the stricken area, discovered the germ that was causing the disease, and recommended a remedy. It is said that this discovery

alone paid his beloved France billions of dollars.

Great and valuable as these discoveries were to the industries of France, they were of little consequence as compared to his services to his fellowman. Probably his discoveries, in the field of what will prevent people from becoming sick, save more human lives every year than were taken by gun and sword each year of the World War. The good he did can never be estimated, and the work he started will go on and on until every germ disease is conquered; for, as he told his pupils, "It is within the power of man to cause all germ diseases to disappear from the earth."

Strange to say, this remarkable man did the greater part of his work after he had been stricken and crippled with an incurable disease. But he struggled on; he felt that he had an important duty to humanity to perform, and none other could do it. When he came to die, in 1895, he said, "I'm sorry to die, because I wanted to do so much more for my country—my beloved France."

—*H. J. Alva.*

HELPS TO STUDY

1. Read the story through quickly. Locate the paragraph which summarizes the life work of Pasteur. 2. Read the story again, and ask five questions which will help others to get the essential facts presented. 3. From a book of biography, or encyclopedia, learn more facts about Pasteur. 4. Outline this story and add any new facts which you were able to find.

Other Selections: Life of Pasteur, VALLERY-RADOT; *Plant and Animal Children*, FOURELLE.

THANKSGIVING FAVORS

A favor is sometimes called a love token. Find out how Mrs. Allinson solved the problem of "something different" for her Thanksgiving party.

"Thanksgiving is drawing near," said young Mrs. Allinson to her husband and her niece Margaret, as they sat around the blazing hearth on a chill November evening. "It is my turn to entertain the members of both families, yours and mine, at Thanksgiving dinner. I wish we might plan something different, some kind of surprise, to help make the first Thanksgiving party in our new home a memorable occasion."

"Well," said Page, as he stood before the open grate, "nothing lingers in the memory longer than a good dinner. We'll stretch the table to its fullest extent and adorn it with the treasures gleaned from our own garden and fields. I can close my eyes and see that table groaning with all the good things you and the cook will prepare. I can even get whiffs of spicy odors. I can see the turkey, all golden brown upon its platter, awaiting the knife of the hostess. I can see before the host, your honored husband, at

the head of the table, a succulent roast pig, which I will carve with such grace as I can muster; but I've no doubt that I'll be diverted from my task by hearing some one say, "Oh, the young pig is winking its eye at me!"

"If you keep on, you will have eaten that dinner!" laughed Mrs. Allinson.

"All this feasting should be preceded by fasting, for never will there be a finer dinner than this one," replied Page.

"You have given me an idea, Page. We *will* have roast pig. That will be a surprise. We will have turkey, cranberry sauce, and all the other good things; that will be just as usual. But we will have something besides a feast of food, something to catch the eye, something to linger in the memory. Now, what would be unusual at a Thanksgiving dinner?" mused Mrs. Allinson, turning to Margaret, who had been an interested listener.

"Aunt Mary, you want something out of the ordinary, as they say at the little gift shop around the corner. Why not place cards—to help Uncle John and Aunt Susan, and the others, find their places at the festal board? Every one will have a jolly time finding his seat, and at the same time, may enjoy the beauty of the table."

"Just the thing!" said Mrs. Allinson. "Thanksgiving favors, but without the proud turkey that struts abroad at this season. Why not fruits and vegetables, instead? Vegetables for the women,

and fruit for the men! How is that for an idea?"

"Good!" said Margaret. "Golden pumpkin heads, dusky nuts, Indian corn, purple grapes, and luscious fruits lend themselves to your purpose. Make each one grotesque and colorful, to catch the eyes of the gentlemen; while grinning, graceful vegetables in dainty, dancing garbs will greatly please the ladies. Even staid Aunt Harriet might release a smile, if she caught a carrot cocking its saucy eye at her, or might even wipe away a tear if she drew a grinning onion!"

"Ideas are dancing in your young head, I see. Let's go to work at once, and catch them before they vanish. What do we need?" asked Aunt Mary.

"Some heavy water-color paper, a box of water-color paints, brushes, scissors, pen and ink, a steady hand, an eye for form and color, and a sense of humor, for I am sure we'll laugh at the pranks the figures will play when we release them. How many guests will there be?" asked Margaret, as Aunt Mary brought out the materials.

"Exactly twenty-four," was the reply. "Tell me what to do and I'll begin. I can cut the cards."

"Cut a rectangle two and one-half inches by eight inches. Make a booklet by folding the short edges together, crease until you have a sharp edge. I'll sketch a design in the upper left hand corner, and before you know it, you'll see Rosy Red in scarlet, and Lady Celery and Cora Cabbage in graceful robes of green, while dear old Pumpkin Head will come in

yellow. It's such fun to make them, for each one can be different. Something different, that is what you wished, is it not?" said Margaret, as she worked to catch each fruit and vegetable in jolly or pensive mood.

Aunt Mary marveled at the ease with which Margaret worked. Each stroke brought out something new, better than the last. Soon an array of dainty cards was spread out upon the table, each one vying with the other for the place of honor in the eyes of the enthusiastic workers.

"Aren't they lovely?" and Margaret heaved a sigh of satisfaction.

"I am delighted with each grinning, mocking, pouting vegetable lady, and each grotesque and gorgeous fruit gentleman arouses my admiration. You are an artist, my dear. This was your idea, and now I'll add mine. Why not an appropriate Thanksgiving verse in each booklet? Each person could read his for all to enjoy. Let us find something that will please your dear grandmother. How is this?" And she read from the book:

> "So once every year we throng
> Upon a day apart,
> To praise the Lord with feast and song
> In thankfulness of heart."

"This would just suit Uncle Will," said Margaret,

> "Oh gay were they that grouped about
> The heaped Thanksgiving board!"

And here is one that will just suit little Tom.

"Hurrah for the fun. Is the pudding done?
Hurrah for the pumpkin pie!"

Thus the two planned and worked to add something a little unusual to the Thanksgiving feast. Success crowned their efforts because each Thanksgiving favor was planned to meet the fancy of each guest.

—*Isobel Davidson.*

Helps to Study

Have you ever heard the expression "reading between the lines"? Let us try it in this story.

1. In reading the first paragraph you are introduced to the characters. Who are they? The problem was stated. What was it? You know where they are. *Read between the lines.* Picture the room in which this conversation took place. 2. As you read Page Allinson's speech, what idea do you gain of the man? Which of the following words characterize him? Set down the words which indicate your estimate of him: sympathetic, appreciative, tease, oratorical, cultured, petty, ill-natured, co-operative, stingy. Where do you find a hint of his occupation? 3. How do ideas come to one? What idea did Mrs. Allinson gain from Page?

Things to Do

1. Find another word for each of the following: mused, ordinary, diverted, vying. 2. Plan a set of Thanksgiving favors for your own Thanksgiving dinner as a surprise to your mother. 3. Collect at least a dozen short Thanksgiving verses and enter in your class booklet.

Other Selections: The Jolly Book for Boys and Girls, Olcott and Pendleton; *What Shall We Do Now?* Canfield; *When Mother Lets Us Give a Party,* Yale.

THE KINDLY JEST

There are two kinds of jokes. Determine what they are from this story and which kind gave the joker in this case the greater pleasure.

A certain nobleman provided his son with a tutor, who was to attend closely to him and improve his mind. This tutor, it seems, had the brains to see that to educate a young fellow you must not merely set him tasks to learn indoors, and then let him run wild in the open air, but must accompany him wherever he goes and guide him with your greater experience.

One day these two came to the side of a wood and there they found a tree half felled and a pair of wooden shoes. The woodsman was cooling his hot feet in a neighboring stream. The young nobleman took up some pebbles and said, "I'll put these in that old fellow's shoes, and we'll see his grimaces."

"Hm," said his tutor, "I don't think you'll get much fun out of that. You see he is a poor man, and probably thinks his lot hard enough without having stones put into his shoes. I can't help thinking that if you were to put a little money in, instead, the old fellow would be far more confused and his grimaces would be more entertaining and you would be more satisfied with yourself."

The generous youth caught fire at the idea, and put a dollar into each shoe. Then the two confederates hid behind a hedge and watched the result of their trick. They had not long to wait. An elderly man came back to his hard work—work a little beyond his years—and slipped his right foot into his right shoe. Finding something hard in it, he took it off again and discovered a dollar. His grave face wore a look of amazement, and the spies behind the hedge chuckled.

He laid the coin in the palm of his hand, and mechanically slipped his foot into the other shoe. There he found another coin. He took it up, and holding out both in his hands, gazed with wonder at them. Then he suddenly clasped his hands together, and fell on his knees, and cried out in a loud voice: "O God, this is Your doing. Nobody but You knows the state we are in at home, my wife in her bed, my children starving, and I hardly able to earn a crust with these old hands. It is You who have sent me these blessed coins by one of Your angels."

Then he paused and another idea struck him:

"Perhaps it is not an angel from Heaven. There are human angels, even in this world; kind hearts that love to feed the hungry and succor the poor. One of these has passed by, like sunshine in winter, and has seen the poor old man's shoes, and has dropped all this money into them and gone on again, and not even waited to be thanked. But

a poor man's blessing flies fast, and shall overtake him and be with him even unto the end. May God go with him and may he feel in his own heart a little of the warmth and the joy he has brought to me and to mine.

"I'll do no more work to-day. I'll go home to my wife and children, and they shall kneel and bless the hand that has given us this comfort and then gone away and thought nothing of it."

He put on his shoes, shouldered his ax, and went home. Then the spies had a little dialogue.

"This I call really good fun," said the tutor, in rather a shaky voice, "but what are you sniveling about?"

'Tisn't I that is sniveling, it is you.

"Well, then we are both sniveling," said the tutor; and with that they embraced, and did not conceal their emotions any longer.

"Come on," said the boy.

"Where next?" asked the tutor.

"Why, follow me, to be sure. I want to know where he lives. Do you think I will let his wife be sick and his children starve after this?"

"Dear boy," said his tutor, "I don't for a moment think you will. Yours is not the age, nor the heart, that does things by halves."

So they followed their victim home, and from that hour a very worthy and poverty-stricken family needed nothing for their comfort.

—*Charles Reade.*

THE PULLING OF THE SWORD

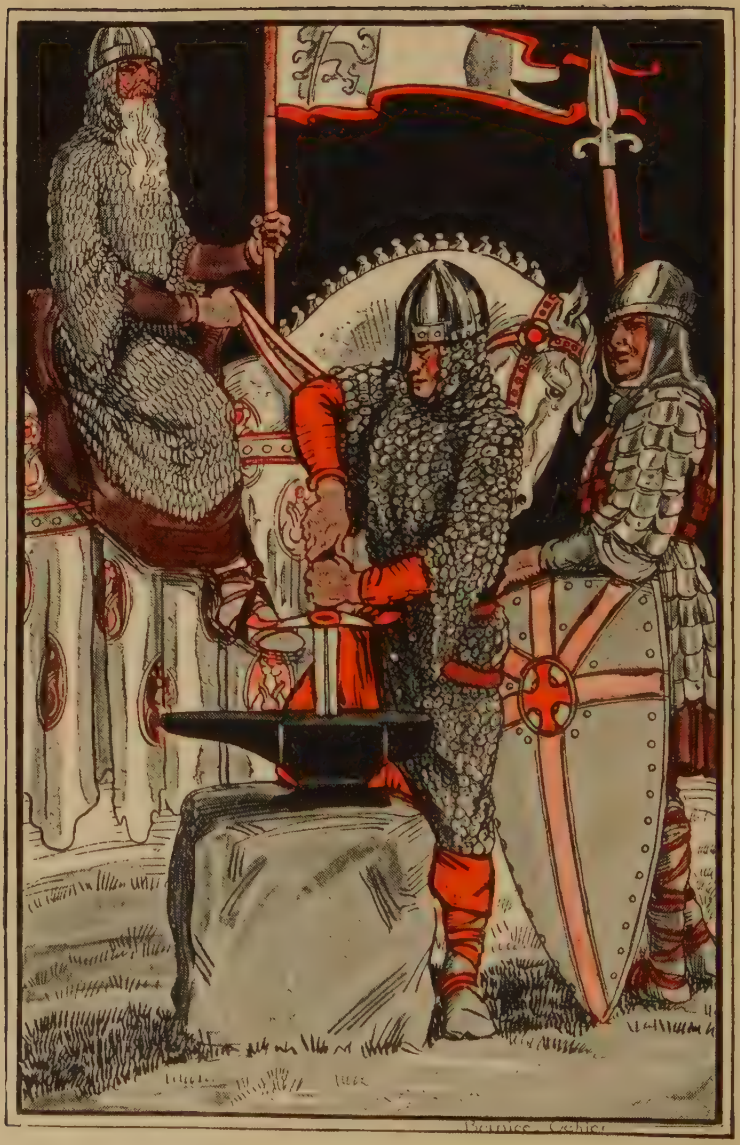
The Legends of King Arthur are eagerly read by young and old alike, because the spirit of romance, and of chivalry, breathes throughout each tale that is told. We, too, become inspired with the ideals which King Arthur impressed upon his followers. "Live pure, right wrong, speak the truth, follow the gleam." This was his motto. Does this story give a hint of this? You will want to read other stories to find how well King Arthur led his people.

In the days when King Uther Pendragon ruled over Britain, and when he had grown old, a baby boy was born to him and his queen Igraine. Now the King was stricken of a fatal sickness and the babe was taken by Merlin, the King's chief adviser, and placed under the care of Sir Ector, one of the noblest and most faithful of the King's subjects. The child was christened "Arthur."

Not long after this, King Uther died, so that Arthur grew up not knowing that he was of royal birth, but believing Sir Ector to be his real father.

As time went on, there grew up great confusion in the realm, for the lords made themselves strong and warred against each other, each hoping to become king.

Then Merlin came to the Archbishop of Canterbury and counseled him to call all the lords of the realm to London upon Christmas day, that God



THE PULLING OF THE SWORD

might show by some miracle who should be king. This was done, and they gathered in the greatest church in London. Suddenly there appeared in the churchyard a huge stone, four square, like unto marble. In the midst thereof was an anvil of steel one foot high; and therein stuck a fair sword on which was written,

"Whoso pulleth out this sword from this stone and anvil, is rightwise king of all England."

The people marveled greatly at the sight and told it to the Archbishop. Then after the service, all poured into the churchyard to behold the stone and the sword. When they saw the words, many tried, but none could stir the sword.

"He is not here," said the Archbishop, "who shall win the sword, but doubt not God will make him known. This is my counsel, that knights of good fame be left here to guard the sword." So it was ordained.

Upon New Year's day the barons made a tournament; for the Archbishop trusted that God would reveal him who should win the sword and thereby prove himself the divinely chosen king of all England.

Now it happened that Sir Ector rode to the jousts and with him Sir Kay, his son, and young Arthur. As Sir Kay was making ready to enter the tournament, he saw he had forgotten his sword and he asked Arthur to ride back after it.

"I will well," said Arthur, and he rode back as fast as he could; but when he arrived at home, the

lady and all were out to see the jousting. Then was Arthur wroth, and he said to himself, "I will ride to the churchyard and take the sword with me that sticketh in the stone, for I vow my brother, Sir Kay, shall not be without a sword this day."

When he came to the churchyard, Arthur alighted, tied his horse to the stile, and, finding no knights about, for all were at the jousting, he lightly and fiercely pulled the sword from the stone, and went his way. When he came to his brother Sir Kay, he delivered to him the sword.

As soon as Sir Kay saw the sword, he wist well it was the sword of the stone, and so he rode to his father, Sir Ector, and said, "Sir, lo! here is the sword of the stone; wherefore I must be king of the land."

When Sir Ector beheld the sword, he turned in wonder to Sir Kay and asked him how he had come by it.

"Sir, my brother Arthur brought it to me."

"How got ye this sword, Arthur?" said Sir Ector.

"Sir, I will tell you. When I went home for my brother's sword, I found nobody there to give it to me, and as I thought my brother should not be swordless, I went eagerly to the churchyard and pulled out this sword without any pain."

"Didst thou find any knight near this sword?" asked Sir Ector.

"Nay," said Arthur.

"Now," said Sir Ector to Arthur, "I understand ye must be king of this land."

"Wherefore I," said Arthur, "and for what cause?"

"Sir," said Sir Ector, "for God will have it so. No man could draw this sword from the stone save him who shall be rightwise king of this land. But let us go back to the churchyard to see whether we can replace the sword and pull it out again."

So the three rode back, and Arthur replaced the sword quickly. Therewith Sir Ector essayed to pull out the sword and failed. "Now essay," he said to Sir Kay, who pulled the sword with all his might, but it would not come out.

"Now shall ye essay," said Sir Ector to Arthur.

"I will well," said Arthur, and he pulled it out easily.

Thereupon Sir Ector and Sir Kay kneeled down to the earth before Arthur.

"Alas," cried Arthur, "mine own dear father and brother, why kneel ye to me?"

"Nay, nay, my lord Arthur, it is not so. I was never your father nor of your blood, but I note well that ye are of higher blood than I thought ye were." Then Sir Ector told him all; how Merlin, the wise man, had put the baby Arthur into his keeping. Then Arthur made great dole when he understood that Sir Ector was not his father.

"Sir," said Sir Ector to Arthur, "will ye be good and gracious to us when ye are made king?"

"Else were I in great blame," said Arthur, "for thou art the man in all the world that I am most beholden to, and to my good lady and mother, your

wife, that hath fostered and kept me, as well as her own. If ever it be God's will that I be king, ye shall desire of me what ye will, and I shall not fail you. God forbid I should fail you."

"Sir," said Sir Ector, "I will ask no more of you but that you will make my son, your foster brother, Sir Kay, seneschal of all your lands."

"That shall be done," said Arthur, "and more, by the faith of my body, no other man shall have that office while he and I live." Therewithal they went to the Archbishop, and told him how the sword was achieved and by whom.

On the twelfth day of the New Year, all the barons again came to London to essay the sword, but none could take out the sword save Arthur. Wherefore many lords were wroth and said, "Great shame be it unto us all and to the realm, to be governed by a boy born of no high blood." So they delayed until Candlemas when only Arthur could pull forth the sword.

Again the barons fell out and delayed until Easter and then until the feast of Pentecost, and a guard of King Uther Pendragon's best men, Sir Baudwin, Sir Kay, Sir Ulfius, and Sir Brastias, and many another, were always about Arthur day and night till the feast of Pentecost.

On that day all manner of men essayed to pull the sword yet none prevailed but Arthur, who pulled it out before all the lords and commons, and all the commons cried out, "We will have Arthur for our

king; we will put him no more in delay, for we all see it is God's will that he shall be our king. The man who longer holds against Arthur we will slay."

Therewithal they kneeled down all at once, both rich and poor, and cried to Arthur, "Mercy, for we have delayed thee so long."

"Mercy shall ye have, freely," said Arthur, and he took the sword between his hands and offered it on the altar, and Sir Ector made Arthur a knight. Then he was crowned king by the Archbishop, and the young king swore unto his lords and commons to be a true king, to stand with justice from thenceforth all the days of his life.

Then the lords and commons made a great shouting,

"Long live King Arthur! Long live the King."

—Adapted from *Sir Thomas Malory.*

Helps to Study

1. What is a legend? Tell the legend of King Arthur's birth and boyhood; the legend of the pulling of the sword, the legend of the crowning of Arthur. 2. What do you consider the most dramatic moment in each of the three legends? Quote to prove your statement.

Things to Do

1. Read "The Sword Excalibur" in *King Arthur and His Knights.*" 2. List the quaint old English words, as *jousting.* 3. Can you not read elsewhere how Arthur was made a Knight?

Other Selections: King Arthur and His Knights, Radford; Warren; *Knights of the Round Table,* Frost; *Stories of Champions of the Round Table,* Pyle; *King Arthur,* Tennyson.

HARES AND RABBITS

How quickly can you discover differences? Read carefully to find in what ways hares and rabbits are different; in what ways they are alike.

Do you know the difference between a hare and a rabbit? If you do, you know more about these animals than most people. In America all members of the family to which hares and rabbits belong —and it is said there are thirty species—are called rabbits, although most of the species are hares.

Rabbits are smaller, have shorter ears, and shorter hind legs than hares. Rabbits live in burrows and their young are born blind and nearly naked. On the other hand, hares do not burrow, their young are covered with fur at birth, and they have their eyes open. The hind legs of hares are longer than their fore legs; this gives them an awkward appearance, but enables them to run faster up hill than down. Mother rabbit has from four to six bunnies in a litter and raises five or six families a year. Mother hare has just as many bunnies in a litter, but is content with only two or three families a year. The young of each species do not reach full growth until they are a year old.

Hares and rabbits are rodents, or gnawing animals, but unlike other rodents they possess two small

incisors, or cutting teeth, behind the large ones in the upper jaw. Their upper lips are cleft, and that is why a deformity of the upper lip in human beings is called a "hare-lip." Their tails are short and stand erect. They have five toes on the fore feet and four on the hind feet. They are mostly nocturnal in their habits, that is, they remain at home—the rabbits in their burrows and the hares in their forms (nests)—during the day and go out to feed at night. They feed upon vegetables, grass, leaves, buds, berries, and the bark of trees and shrubs. They are particularly fond of clover, cabbage, dandelion leaves, and carrots, and sometimes do much damage to gardens and orchards.

Hares and rabbits are timid, but they fight bravely in defense of their young and in self-defense. They are capable of striking powerful blows with their hind feet, and have been seen to knock over a weasel and kill a snake. Domesticated rabbits generally live peaceably with cats, but when differences arise the rabbit usually succeeds in making the fur, as well as the cat, fly.

In avoiding their enemies they display much ingenuity, and some observers give them credit for being as clever as foxes. When pursued they have a habit of stopping suddenly, almost under the feet of their enemy, and turning with incredible swiftness to run in another direction.

Their tremendous speed is due to their peculiar method of running, to which the structure of their

legs is eminently fitted. When the hare or rabbit takes to flight, he leaves the ground with a tremendous leap and for an instant is completely extended. While in the air, however, he brings his hind legs forward until they project beyond and above his head. While bunched in this position, his fore paws strike the ground, one ahead of the other. He tilts forward, and at the same time, he starts swinging his hind legs downward. They strike the ground side by side, but at a spot far ahead of where the front feet are planted. Doubled up thus like a spring, the rabbit "uncoils" suddenly in his next great leap. This method of running is the cause of the peculiar appearance of rabbit tracks familiar to all hunters. They form a pattern like the human face, the eyes marked by the hind paws, and the nose and mouth outlined by the fore feet. Measurements of these tracks show that a frightened jack rabbit covers fifteen to twenty feet at a bound.

By man these animals are persistently hunted for their tender and wholesome flesh, and for their fur, which is used to make felt hats. Besides man, all the birds and beasts of prey are their natural enemies. They are the constant food of wolves, coyotes, lynxes, foxes, mountain lions, and wildcats, and are preyed upon more or less by badgers, skunks, minks, weasels, owls, and hawks. Yet, despite all their foes, they increase so rapidly that they sometimes overrun large areas and destroy entire crops.

In 1850 three pairs of the European rabbits were turned loose in Australia. Within a few years, their descendants had increased to such numbers that the government had to take steps to exterminate the rabbit pest. Millions of dollars were spent for devices for killing the rabbits or protecting the crops, and even today professional rabbiters are employed to keep the wild rabbits in check.

Hares and rabbits belong to a single genus, *Lepus*. The best known and most common American species is the little gray rabbit, or cottontail. It is a rabbit, although it does not burrow to the extent indulged in by its European brother, and its young are frequently born in nests, or forms, above ground. The mother cottontail generally lines her nest, or covers her naked young ones, with fur from her own body.

The total length of the cottontail is seventeen inches; its general color is cinnamon brown, grayer behind. It is white underneath with a gray stripe across the breast. The under surface of the tail is pure white. The range of the cottontail and its allied species is almost the whole of the United States.

The jack rabbits are the largest of the American hares. They are more than two feet in length and their ears are five or six inches long. They have slender bodies and long legs, which enable them to run at a tremendous pace for short distances as many a dog has discovered to his distress. Their

home is on the western plains from Canada to central Mexico. Jack rabbits increase rapidly and frequently cause much damage to crops. At such times, thousands are killed by poisoning and by organized drives in which hundreds of men and boys participate.

The prairie hare is not a jack rabbit, although it is generally so called. It is a smaller animal, and its color changes to white in winter.

All domesticated varieties, including the Belgian hares, are rabbits. The largest of the domestic rabbits is the Patagonian which often weighs from twelve to sixteen pounds

—From Compton's *Pictured Encyclopaedia,*
Courtesy F. E. Compton and Company, Publishers.

Helps to Study

1. What is the main idea in the first paragraph? What is the meaning of species? 2. Decide whether the second paragraph discusses the way in which rabbits and hares are alike or different. List what you find under an appropriate heading. 3. Read the paragraphs which you think tell us what rabbits and hares share in common. List these common characteristics and habits under the heading, alike or similar. Which of these have you had opportunity to observe? 4. Read the rest of the selection. Ask a good question on each paragraph to test yourself and your classmates. Write questions on cards or slips of paper, and distribute. Have each pupil in turn look at his card, read the question aloud to the class, and give the answer. Check on the correctness of statements.

Other Selections: Hare and Hounds, Hughes; *Wild Animals I Have Known,* Thompson Seton.

THE FAR NORTH

Here is an editorial written after hearing a lecture by Stefansson, the Arctic explorer. Where may this type of story always be found? Who writes it? What is its purpose?

At the North Pole, the thermometer never drops lower than sixty degrees below zero. Frequently it gets that cold in our northwestern states and southern Canada. Havre, Montana, once registered sixty-eight below zero, the coldest ever recorded in the United States.

In northern Alaska and Canada, along the shores of the Arctic Ocean, the snowfall is so light that if you scattered one hundred walnuts on the ground in autumn, you would be able to count ninety of them, sticking out of the snow, at any time during the winter. The record snowfall in the United States was nearly seventy-four feet. This occurred fifteen years ago at Tamarack, in the Sierra Nevada Mountains of California. In the Klondike gold rush, more prospectors died of summer sunstroke in Dawson than perished of winter cold.

Stefansson, the Arctic explorer, thinks that by 1970 Americans will be eating 50,000,000 pounds of reindeer meat a year, shipped from the Far North. Central Alaska soon will be growing all the wheat it needs. He believes the Arctic Circle is a coming

country. He says it is possible for a tramp to hobo his way to the North Pole and back, carrying only a harpoon, and using seal meat for food and seal fat for fuel.

Stefansson's theory is that popular fallacies, about the Far North being a solid iceberg, are part of the false knowledge inherited from the ancient Greeks. These fallacies have been handed down to us by a chain of text-book writers who rewrote the "old stuff," posing as authorities on the Far North though they never were there to check up.

How much of our supposed knowledge in other fields is really misinformation inherited from the ignorance of long ago?

—*An Editorial.*

HELPS TO STUDY

1. Read this in one minute and a half. If you can recall three facts you have read, you have a good reading habit. You can improve it, however. 2. Read again, paragraph by paragraph, and decide what is the important point in each. 3. What statements excite your interest? 4. Find out more about each of the following and form your own opinion:

a. Reindeer Meat Supply for the United States.
b. The Arctic Circle a Coming Country.
c. Wheat Raising in Alaska.

NOTE—Search current magazines.

5. Word study: Prospectors perished, popular fallacies, posing as authorities, inherited misinformation. Find other words with the following prefixes:

trans	mis	im (not)
transact	misfit	impossible

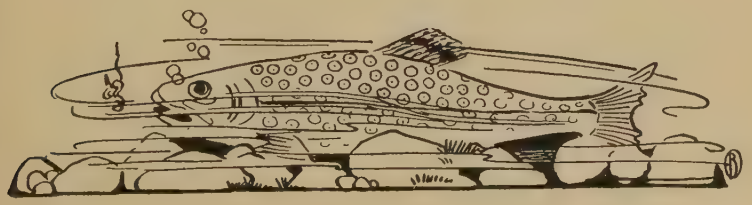
Other Selections: The Snow Baby, PEARY; *The Husky*, JACK LONDON; *Is There a Santa Claus? New York Sun*, CHURCH.

A FISH HATCHERY

Have you ever wondered how it is possible to fish trout in a stream year after year without decreasing the number of fish? It would not be possible if our state and national governments did not re-stock these streams with young trout. Where does the government obtain fresh supplies of fry each year? Come with me to a fish hatchery and the mystery will be explained.

A fish hatchery is located, usually, on sloping ground near a spring or a stream of cold, clear, rapidly running water. A location below a large, deep spring is best, since there is no danger of the supply of water giving out and the temperature remains uniform. Sloping land with the spring or stream above the hatchery is necessary so that the water will flow from one trough to another in the hatchery and from one trout pond to another.

Every trout hatchery must have several ponds in which to keep the fish of different ages. These ponds are supplied with water from the spring. The



water flows from one pond to another with an open race, or sluice, between each pair of ponds. Shade trees, usually rapidly growing willows, are planted around the edge of each pond. Such trees keep the water cool in summer and, also, furnish a home for numerous insects which fall into the water and provide food for the fish.

One of the ponds is used as a home for the mature fish which produce the eggs. When the fish are ready to spawn, they usually come to the raceway between the ponds, for they prefer the swift water. Here workmen take them from the water by means of a long handled scoop net and place them in large tubs full of fresh, cold water. The tubs are then carried to the hatching room and the laying fish placed in large tanks.

After removing the eggs, by a slight pressure upon the body, the workmen pour the eggs into trays and spread them out two layers deep. These trays are placed in the hatching troughs through which clear water flows constantly.

After they have remained in these trays about three weeks, one can see, upon looking closely, two black spots on each egg. These are the fish's eyes. Next, the lines of the head appear and later a curving black line which becomes the backbone. Finally, a perfectly formed fish can be seen inside of the egg. Soon the little fish begins to jerk about and then comes out of the egg, tail first.

When the small fish, called fry, come out of the

eggs, they fall through the meshes of the tray to the bottom of the trough. They are taken from this place to other troughs with bottoms of fine gravel. They learn to huddle together very quickly, much as young chicks huddle under the wings of the mother hen. A part of the egg remains with the baby fish and sustains its life for some time. Later the fry are given liver chopped up very fine, and often curdled milk is fed to them. From these troughs they are removed to nursery ponds where they are fed daily until they become large enough to be shipped to trout streams

A fish hatchery is a very interesting place to visit, and frequently in summer hundreds of people may be seen there of an afternoon. Children especially like to visit the ponds to see the fish and learn how they are cared for.

Most fish have good appetites. If a mosquito or some other luckless insect falls into the water, it is snapped up as quick as a flash. At feeding time, the rule is "first come, first served," and when their food is thrown upon the water, a lively scramble takes place. The meal is all over in a moment without so much as a grease spot remaining.

The fish spawn in November and the fry are kept in the hatchery until the following April. The young fry are then put in ordinary milk cans filled with fresh water. Air must be passed into the water frequently or the fish will die. These cans are shipped by express to the railroad station nearest the trout

stream to be stocked. The cans of fish are then hauled to the streams and the small fry are turned loose into the swift running water.

In about three years these young trout will be large enough to use. The little brook trout will weigh about one-half pound and the rainbow, about two pounds at that age. Fishermen consider trout the choicest of fish for food, and trout fishing the finest of outdoor sports.

—*C. J. Anderson.*

Helps to Study

1. What questions are raised in the first paragraph? 2. Ask others, as you read. Record on slips of paper provided for this purpose. When all have finished reading, exchange one slip at a time with your classmate. Each pupil in turn will answer the question. When the answer is incorrectly given, the pupil is asked to read again. Try to recall exactly what is given. This you can do, if you carefully picture each part. Try to be among those who are able to get the thought at the *first* reading. 3. Here are some questions which may help you:

a. Where is a fish hatchery usually located? Why?

b. Why are several ponds needed?

Things to Do

1. Visit a fish hatchery, and note the points given here. 2. Read in your reference text about fish hatcheries and government fisheries, as much as you can understand.

Other Selections: The Fish I Didn't Catch, Whittier; *The Minnows with Silver Tails*, Ingelow; *Hexapod Stories*, Patch.

SOME PROBLEMS TO READ

1. William earns $3.50 a week as errand boy at the Lion Drug Store, working after school and Saturdays. He has been there three weeks, and hopes to be there three months. How much has he earned now? How much will he have at the end of three months?

Which of the following words seem to tell you what kind of a boy he is?

Industrious, foolish, friendly, good natured

Write your answers to the problem on the first line; to what kind of a boy he is, on the second line.

2. If William buys a suit of clothes for $18.95 out of his earnings, and puts away in the bank $1.00 each week, what does he spend for other things?

Would you say that he is miserly, or selfish, or saving, or helpful?

Write your answer to the problem on the third line; to the kind of boy he is, on the fourth line.

3. If William spent money freely on the circus, "movies," candy and gum, what word below would most fitly describe him?

Intelligent, lazy, wasteful, spendthrift

Write your answer to this question on the fifth line

A PEACE MONUMENT

So many monuments are erected in memory of brave men who have given their lives in battle for their country, in ruthless war, that it is unusual to hear of a Peace Monument. Where is this monument? What was the occasion that prompted its erection?

The word monument usually suggests a memorial of some kind. It also means a marker. Thus the farm of the ancient husbandman, or farmer, was marked out, not by fences, but by stone posts, large trees, or other fixed boundaries called *landmarks*. Sometimes the stone posts would fall over, the trees decay, and the exact boundaries of the farms become unknown. Such a condition was apt to invite trouble; so, in order to avoid a quarrel between two farmers whose boundary line may have been in doubt, other neighbors came and "restored the ancient landmarks." If the two neighbors happened to be dukes or kings, the difficulty was not always so easily settled; and if the matter came to an open quarrel, it often led to war between neighboring dukedoms or kingdoms. Of course, there have been many other causes of war, but disputes over undetermined boundary lines have been among the most frequent.

A hundred years ago most of South America belonged to Spain. She claimed the continent by

right of discovery, exploration, and settlement, just as England and France claimed North America. By and by, Spain became too greedy and demanded more gold and other treasures than the colonists were willing to pay; so they revolted one by one, drove out the Spanish armies, and set up independent governments of their own. And then, having learned the art of war, many of the colonists were unwilling to pursue the arts of peace. They wanted to live by making war upon neighboring states and robbing them of some of their wealth and lands. As a consequence, one war followed another between the South American republics for a great many years—until the rest of the world grew sick and tired of the constant strife.

Finally, the quarrel between Argentina and Chile reached a point where war was imminent, when Great Britain offered to act as peacemaker and to hear the claims of each party to the dispute.

If the reader will now turn to the map of South America and notice the boundary line between Chile and Argentina, he will gain a better idea of the difficulty of locating this line with any exactness. The line was supposed to run along the crest of the mountains. But among so many high peaks it was very difficult to determine just where the line should run; and this uncertainty led to no end of trouble.

Happily the offer of Great Britain was accepted and the trouble settled, without the loss of a single life, and to the entire satisfaction of each nation.

But to the glory of both nations, it must be said. they did not stop with the signing of a peace agreement. They resolved to make war between themselves impossible, if it could be done. Therefore, they decided to erect on the boundary line, to which they had agreed, a monumental statue to the Prince of Peace.

Accordingly, plans were drawn and the statue cast at Buenos Aires out of cannons taken from the old fortress near the city. The site chosen for the erection of the statue was a historic spot, on the very crest of the Andes Mountains. There one may look down westward over the hills of Chile and eastward across the plains of Argentina; and there one may see the place where the armies of Chile and Argentina, brothers in arms one hundred years before, had camped while on their memorable march to wrest Chile from the hands of Spain; and there on the great highway over the mountains a little stone house had been erected as a shelter to travelers going to and from Chile and Argentina. All of these things counseled peace, neighborliness, brotherhood.

So, on the level summit of the pass, the two neighbors erected the heroic figure of the Prince of Peace. It is a bronze statue, twenty-six feet high and rests upon a large stone base about ten feet high. On the base are inscribed these words:

> Sooner shall these mountains crumble into dust than shall the Argentines and Chileans break the peace which they have pledged at the feet of Christ the Redeemer.

The very next year Chile sold her navy for $5,000,000 and used the money to pay off her debts and make improvements. She built the Trans-Andean Railway, one of the world's wonders, across the mountains from Valparaiso, Chile, to Buenos Aires, Argentina, and both nations have benefited greatly by it ever since. The boundary line is now clearly marked and all danger of trouble between these neighbors is far remote. What an example to the rest of the world!

"And they shall beat their swords into plowshares and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war any more."

—*C. J. Anderson.*

Helps to Study

1. Each paragraph contains a central thought or idea and often explanatory statements—to help make the meaning clear. Study each paragraph. Determine what the main idea is and express it in your own words. For example, two statements are given below as a summary of the first paragraph. Which do you regard as the better statement?

   a. Monuments have been used as memorials, as markers, and as "ancient landmarks" to fix boundaries between estates.

   b. War is often caused by disputes over undetermined boundary lines.

2. Use your map of South America. Locate the countries and cities mentioned, and trace the boundary line in question.

3. What effect has this monument had upon the two nations? What did Chile do?

Other Selections: Mason and Dixon Line, Maryland History Stories, Passano; Washington and Lincoln Monuments.

THE SCOUT MASTER'S STORY

"A little child shall lead them." Find out how these words apply to this story.

"Tell another one!" shouted Bill Huffman from his log back of the camp fire. "Oh, yes, give us another one," added Elliott, "please tell us one more"; while a chorus of voices repeated the refrain "Another one! another one!"

"Well, well," laughed the scout master, "you scouts flatter me; you almost make me think that I'm a real-story teller. In that case, it would be wise to quit while my reputation is good."

"No, no! Go on, go on!" sang the whole troop in unison.

"Then I shall tell you a story I heard my uncle tell, after his return from the War Between The States. The incident happened at Chattanooga, and illustrates how, even between opposing armies, a little child may halt the warlike plans and lead men's thoughts to nobler things.

Two armies—Confederate and Union—were facing each other upon the eve of battle. The Confederates were drawn up on Lookout Mountain and Missionary Ridge, while the Union Army was entrenched in the valley below. Both were preparing for the death struggle awaiting them. The armies were pretty near each other, and both had pickets out watching every movement of the enemy.

One day we were perfectly surprised by the sight of a little child toddling toward our lines. She was such a small, innocent, unafraid little creature, entirely unconscious of any danger. She came from the direction of the Confederate Army, and needless to say, we surrendered to her without the firing of a gun. When she reached a place in our lines, hundreds of our men gathered around her. She seemed perfectly at home as she stood looking at us with wide-open eyes in which shone both perfect trust and confidence.

Our boys began plying her with questions as to what her name was and where she came from, yet she could give no satisfactory answer. One of the men asked her to whom she belonged, and she lisped, "Uncle Jim." Then we asked her who Uncle Jim was, and she pointed toward the Confederate lines, by which we knew that she must have in some mysterious manner made her way through both picket lines to the Union Army.

Every man wanted to take her into his arms and kiss her; and how they did wish they had some candy

or cakes to give her, but army rations afforded nothing of the kind. Then some of the men thought of sugar, and every one wanted to give her some, of which we had a plentiful supply. So we loaded her down with big lumps of the sweet stuff; and one of the boys happened to remember that he had a string of beads, which he brought and put around her white neck. Another had a silk handkerchief, which he tied about her throat, while some of the other boys, not to be outdone, searched among the keepsakes their sisters and sweethearts had sent them and found handkerchiefs and ribbons which they tied upon her small person.

One produced a rosette of red, white, and blue ribbon, which he pinned upon her dress. Another found a small silk flag, and pinned that also upon her; all of which she enjoyed immensely and seemed to think it all "in the play."

I saw tears come into eyes that had not been wet since they left their mothers, wives, and sweethearts in the far-away North. Our captain took the child in his arms and, while he pressed her close to his heart, said: "Boys, I've got a little girl at home about the age of this little one. O God! I wonder if I shall ever see her again!" At this every man removed his hat and stood silently at attention, but if you had asked them why they did so, they could not have told you. I know now, however, that a little child can bring God mighty near under such conditions.

And then the question was raised, what shall we do with her? for, obviously, we could not keep the child in such circumstances of impending danger. The problem was solved by one of the men's removing the ramrod from his gun and tying a white handkerchief upon the end of it; then, after obtaining permission of the captain, he took the little one and her gifts in his arms and started toward the Confederate lines.

Bob Chambers called to him to hold on a minute, as he wanted to send "Uncle Jim" some coffee. "I'll bet he hasn't had a good cup of coffee since the war began," he said. So he filled a small bag with the precious grains and gave it to the little girl, saying, "take this to your Uncle Jim." The boys all shouted a good-bye as they started for the Confederate lines, the little girl holding high the flag of truce.

As they neared the Confederate lines several men came forward to meet them, one of whom was Uncle Jim himself, who had been searching for his little girl in every direction. Ed Avery, who was carrying the child, learned from Uncle Jim that her father had been killed at the battle of Chickamauga, and that her mother had since died, leaving the child to the care of Uncle Jim, who was waiting for a chance to send her to his home in the Southland.

Tightly holding the baby in his arms and looking fondly at her, Uncle Jim said, "Boys, I am going to get permission to take her to my home, and maybe

while I am gone this battle will come off. I hope it will, for, I don't feel like shooting at those fellows after this—at least for some time to come," he added, with a twinkle in his dark gray eyes, and a smile upon his weather-beaten features.

And as the gray-clad men around him grasped his meaning, a regular Confederate yell went up from each throat, which was echoed from the blue-clad lines as they witnessed the dramatic scene; and both sounds blended into whispering echoes from the rugged sides of Lookout Mountain.

—*The Scout Master.*

Helps to Study

1. Give the setting in detail. Use your map. Use also "drawn up" and "entrenched" in your discussion. What is the difference in meaning?
2. Tell in detail the dramatic incident which occurred.
3. Where do you think the situation was most dramatic?
4. How was the high tension of feeling relieved?
5. What effect did the little child in their midst have upon both armies? Read the lines which prove your statement.

Things to Do

1. Call on some old soldier in your community and ask him to relate one of his Civil War experiences.
2. Find another story in which a little child holds the center of the stage. Compare with this one.
3. Read the "Blue and the Gray," by Finch.

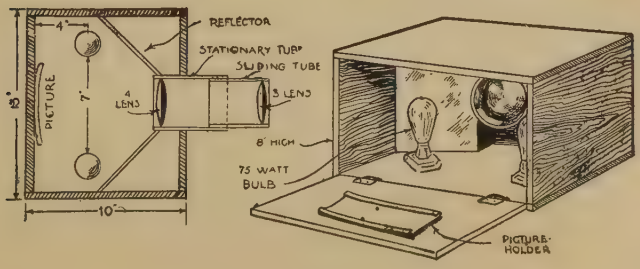
Other selections: Little Giffen, Ticknor; *A Yankee Girl at Bull Run*, Curtis; *American Book of Golden Deeds*, Baldwin; *The Blue and The Gray*, Finch.

A POST CARD PROJECTOR

If you can *do* just what Harry L. Gray tells you to do in this story, you will have a pleasant surprise for yourself and your friends. Try

A post card projector will provide an unlimited source of evening entertainment. The construction of apparatus is not difficult if electric current is at hand. Two bulbs, of seventy-five Watt, and two reading glasses will be needed. The glasses can be three and four inches, or four and five inches.

A box to contain the bulbs, lens, and reflectors can be made of wood. The dimensions given in the drawing will be about right. Hinged at the bottom, the back opens downward to make easy the changing of the pictures. The post card holder should be slightly curved for best results as that allows all points of the picture to be brought into focus at once.



A reflector is placed in each forward corner of the box; these can be made out of bright tin. The interior of the box should be painted white, except the back and the lens tubes, which should be black. The lens tubes can be made of cardboard or metal. Sometimes two tin cans can be found that will slide into each other just right. One of the glasses is fastened in the end of each tube, the larger glass being placed in the rear. After the apparatus has once been focused, the tube with the larger lens is fastened solidly in place, and the smaller tube is used for further focusing.

Any kind of pictures may be shown, but they will be reversed on the screen. This is not objectionable, however, unless there is lettering on them in which case the pictures should be viewed from the back of the screen.

Harry L. Gray.

Courtesy of Popular Science Monthly.

Helps to Study

1. What difficulty may prevent you from making the projector? 2. What things do you need? List them. What will be the cost of each? Where can each be secured? 3. How is the post card held in place?

Things to Do

1. Visit a shop which handles cameras and projectors. 2. Make a post card projector. 3. Collect post cards, arrange in sets for "Travelogues," "Science talks, "etc.

Other Selections: The American Boy's Handy Book, Beard; *Boy Scouts Camp Book*, Cave; *The Boy Craftsman*, Hall.

This is an excellent story to dramatize. Read it through carefully with this purpose in mind. Decide upon the scenes, the characters and their parts. Appoint committees to write different parts of the play.

Captain John Hull was the mint-master of Massachusetts, and coined all the money that was made there. This was a new line of business; for, in the earlier days of the colony, the money consisted only of gold and silver coin of England and Spain.

For instance, if a man wanted to buy a coat, he perhaps exchanged a bearskin for it. If he wished for a barrel of molasses, he might purchase it with a pile of pine boards. The Indians had a sort of money, called wampum, which was made of clam shells, and this strange sort of specie was taken in payment of debts by the English settlers. Bank bills had never been heard of. There was not money enough of any kind, in many parts of the country, to pay the salaries of the ministers; so that they sometimes had to take quintals of fish, bushels of corn, or cords of wood, instead of silver and gold.

As the people grew more numerous, and their trade with one another increased, the want of money was still greater. To supply the demand, the general court passed a law for establishing a coinage of shillings, sixpences, and threepences. Captain John Hull was chosen to manufacture this money, and was to have one shilling out of every twenty to pay him for the trouble of making them.

Hereupon all the silver in the colony was handed over to Captain John Hull. The battered silver cans, I suppose, and silver buckles, and broken spoons, and silver buttons from worn-out coats, and silver hilts of swords that had figured at court, all such curious old articles were doubtless thrown into the melting pot together. But by far the greater part of the silver consisted of bullion from the mines of South America, which the English buccaneers—who were little better than pirates—had taken from the Spaniards, and brought to Massachusetts.

All this old and new silver being melted down and coined, the result was an immense amount of splendid shillings, sixpences, and threepences. Each had the date 1652 on the one side, and the figure of a pine tree on the other. Hence, they were called pine-tree shillings. And for every twenty shillings that he coined, you will remember, Captain John Hull was entitled to put one shilling into his own pocket.

The magistrates soon began to suspect that the mint-master would have the best of the bargain. They offered him a large sum of money if he would

but give up that twentieth shilling, but he declared himself perfectly satisfied. And well he might be; for so diligently did he labor, that, in a few years, his pockets, his money bags, and his strong box were overflowing with pine-tree shillings. This was probably the case when he came into possession of Grandfather's Chair; and as he had worked so hard at the mint, it was certainly proper that he should have a comfortable chair to rest himself in.

When the mint-master had grown very rich, a young man, Samuel Sewell by name, came a-courting his only daughter.

His daughter—whose name I do not know, but we will call her Betsy—was a fine, hearty damsel, by no means so slender as some young ladies of our own day. On the contrary, having always fed heartily on pumpkin pies, doughnuts, Indian puddings, and other Puritan dainties, she was as round and plump as a pudding herself. With this round, rosy Miss Betsy, did Samuel Sewell fall in love. As he was a young man of good character, industrious habits, and a member of the church, the mint-master very readily gave his consent.

"Yes, you may take her," said he in his rough way, "and you'll find her a heavy burden enough."

On the wedding day, we may suppose that honest John Hull dressed himself in a plum-colored coat, all the buttons of which were made of pine-tree shillings. The buttons of his waistcoat were sixpences; and the knees of his smallclothes were buttoned with silver

threepences. Thus attired, he sat with great dignity in Grandfather's Chair, and, being a portly old gentleman, he completely filled it from elbow to elbow.

On the opposite side of the room, between her bridesmaids, sat Miss Betsy. She was blushing with all her might, and looked like a full-blown peony, or a great red apple.

There, too, was the bridegroom, dressed in a fine purple coat and gold lace waistcoat, with as much other finery as the Puritan laws and customs would allow him to put on. His hair was cropped close to his head, because Governor Endicott had forbidden any man to wear it below the ears. But he was a very personable young man; and so thought the bridesmaids and Miss Betsy herself.

The mint-master, also, was pleased with his new son-in-law, especially as he had courted Miss Betsy out of pure love, and had said nothing at all about her portion. So, when the marriage ceremony was over, Captain Hull whispered a word to two of his men-servants, who immediately went out, and soon returned, lugging in a large pair of scales. They were such a pair as wholesale merchants use for weighing bulky commodities, and quite a bulky commodity was now to be weighed in them.

"Daughter Betsy," said the mint-master, "get into one side of these scales."

Miss Betsy—or Mrs. Sewell, as we must now call her—did as she was bid, like a dutiful child, without

any question of the why or wherefore. But what her father could mean, unless to make her husband pay for her by the pound (in which case she would have been a dear bargain), she had not the least idea.

"And now," said honest John Hull to the servants, "bring that box hither."

The box to which the mint-master pointed was a huge, square, iron-bound, oaken chest; it was big enough, my children, for all four of you to play at hide and seek in. The servants tugged with might and main, but could not lift this enormous receptacle, and were finally obliged to drag it across the floor.

Captain Hull then took a key from his girdle, unlocked the chest, and lifted its ponderous lid. Behold! it was full to the brim of bright pine-tree shillings, fresh from the mint; and Samuel Sewell began to think that his father-in-law had got possession of all the money in the Massachusetts treasury.

But it was only the mint-master's honest share of the coinage.

Then the servants, at Captain Hull's command, heaped double handfuls of shillings into one side of the scales, while Betsy remained in the other. Jingle, jingle, went the shillings, as handful after handful was thrown in, till, plump and ponderous as she was, they fairly weighed the young lady from the floor.

"There, son Sewell!" cried the honest mint-master,

resuming his seat in Grandfather's Chair, "take these shillings for my daughter's portion. Use her kindly, and thank Heaven for her. It is not every wife that's worth her weight in silver!"

—*Nathaniel Hawthorne.*

Helps to Study

1. Read as quickly as you can to get the main points of the story. These questions may help you.
   a. Why is it given this title?
   b. Where is the scene of the story laid?
   c. What characters are mentioned? Describe each and give your opinion concerning each one.
   d. Who will discuss what money is? The kind of money used in the colony? What were pine-tree shillings?
2. Plan your scenes. They might be as follows:
   I. What was used for money in the new colony.
      A group of colonists discuss the money question.
      First person—What money is.
      Second person—Scarcity of English and Spanish coins.
      Third person—Articles used in barter and exchange.
      Indian—Wampum and furs.
      Minister—How his salary is paid.
   II. The need for coins, pine-tree shillings provided.
      1. The general court meets, passes a law to establish coinage, and appoints Captain Hull as mint-master.
      2. Old silver is called in—people bring their treasures.
      3. The new pine-tree shillings.
      4. Toll taken by Captain Hull annoys magistrates.
   III. What happened at the Sewell-Hull wedding.
      1. Mr. Sewell asks for Betsy.
      2. Betsy in the scales. 3. "Worth her weight in silver."

Other Selections: Any good History Text. *Every Day Life in the Colonies,* Stone and Fickett.

MARCO POLO

Compare this history story with another relating the same facts. Use your history text, or another story book. In making a comparison, you decide in what ways the two stories are alike, in what ways they are different. This requires careful reading of both stories, and exercising judgment.

In the year 1271 a youth of seventeen, Marco Polo by name, in company with his father and uncle, left Venice intending to travel unto the great city of Pekin, capital of China. The distance by airplane is about 5,000 miles; but the journey by land and sea covered by Marco Polo and his party must have been more than 15,000 miles, and is considered the most remarkable in all history.

Every step of the way was full of hardship and danger. They traveled on sea in small sailing vessels, hardly daring to get out of sight of land, and for safety at night, anchored in some sheltered bay. On land they were obliged to travel with the slow-going caravans for fear of robbers or hostile, savage tribes. Rivers were forded or crossed on rafts. Mountain passes were difficult and often blocked with snow. Deserts, without food or drink, lay in

their pathway. Maps they had none, and the compass had not yet been invented. Nevertheless, they pressed on. They had traversed the Mediterranean Sea to Constantinople; crossed Armenia to the city of Bagdad; visited the city of Hormuz on the Persian Gulf, crossed Persia and Turkestan; climbed the Himalaya Mountains; trudged through Pamir; plodded across the great desert of Gobi; and finally, after three and one-half years of the most exciting adventures, arrived at Pekin.

To the great joy of the Polos, they were cordially received by the Great Khan, Emperor of China. So far as known, they were the first Europeans to penetrate so far eastward, and certainly the first to receive royal favors. Marco, especially, became a great favorite at the imperial court. He learned to speak several languages and was often entrusted with important business to transact for the emperor. At one time he was appointed governor of one of the great cities of China.

After a residence of twenty years in China, the three men begged leave to return home. Permission was refused them. Instead, they were ordered to escort a young princess to Persia in order that she might marry the Prince of Persia. The journey took two years. After the wedding, instead of returning to China, the Venetians started for home and reached Venice two years later, in 1296.

The three Polos had been counted as dead, their property in Venice divided, and their names for-

gotten. It was necessary therefore, for them to convince people that they were alive—to identify themselves—and this is the way they did it:

"They invited a number of their kindred to an entertainment, which they took care to have prepared with great splendor. When the hour arrived for sitting down to table, they came forth all three clothed in crimson and satin. And when water for the hands had been served, and the guests were seated, they took off those robes and put on others of crimson damask.

"Then after partaking of some of the dishes, they went out again and came back in robes of crimson velvet; and when dinner was over, they cut up and divided among the servants the several robes after they had put on dresses of the ordinary fashion worn by the rest of the company.

"These proceedings caused much wonder and amazement among the guests. But when the table had been cleared, and all the servants had been ordered to retire from the dining hall, Marco brought forth the three shabby dresses of coarse stuff which they had worn when they first arrived.

"Straightway they took sharp knives and began to rip up some of the seams, and to take out of them jewels in vast quantities, such as rubies, sapphires, carbuncles, diamonds, and emeralds.

"Now this exhibition of such a huge treasure of jewels and precious stones, all tumbled upon the table, threw the guests into fresh amazement, in

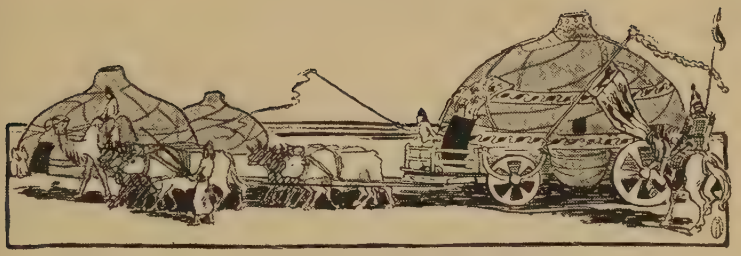
so much that they seemed quite bewildered and dumbfounded. And now they recognized that in spite of all former doubts these were in truth those honored and worthy gentlemen of the House of Polo that they claimed to be.

"And when the story got wind in Venice, straightway the whole city, rich and poor, flocked to the house to embrace them, while the young men came daily to visit and converse with the ever polite and gracious Messer Marco, and to ask him questions about China and the Great Khan."

Now it happened that the two rival cities, Genoa and Venice, were at war with each other over the trade with the far east. Accordingly, Marco Polo, being rich and powerful as well as experienced in war by land and sea, was made "Gentleman Commander" of one of the war-galleys of the Venetian Navy. Unfortunately for him, but fortunately for history, the Venetians were beaten, and Marco taken prisoner and put in chains. For two years he remained in prison. Fortunately, he had for his companion an educated gentleman, and to him we are indebted for *The Adventures of Marco Polo*, one of the most remarkable accounts ever written. While Marco dictated, his companion wrote down the adventures, one of which you shall read.

Concerning the Tartars

"Now that we have begun to speak of the Tartars, I have plenty to tell you on that subject. The



Tartar custom is to spend the winter in warm plains, where they find good pasture for their cattle, while in summer they betake themselves to a cool climate among the mountains and valleys, where water is to be found as well as woods and pastures.

"Their houses are circular and are made of wands covered with felts. These are carried along with them whithersoever they go; for the wands are so strongly bound together, and likewise so well combined, that the frame can be made very light.

"They also have wagons covered with black felt so that no rain can get in. These wagons are drawn by oxen and camels, and the women and children travel in them. The women do the buying and selling, and whatever is necessary to provide for the husband and household; for the men trouble themselves about nothing but hunting and hawking, and looking after their hawks and falcons, unless it be the practice of warlike exercises.

"They live on the milk and meat which their herds supply, and on the produce of the chase; and they

eat all kinds of flesh including that of horses and dogs. The clothes of the wealthy Tartars are, for the most part, of gold and silk stuffs, lined with costly furs in the richest fashion."

It was a copy of this book, falling, into the hands of Christopher Columbus, that fired his ambition to seek a new route to India, and China, and which resulted in the discovery of America. The story of Marco Polo, therefore, has special interest to all American boys and girls.

—*Adapted from Marco Polo.*

Helps to Study

If you are planning to compare this story with another, you need to think through the whole, and each part as well:

1. Into how many parts can you divide this story? What names will you give to each part? Compare these topic headings with those in your history text. 2. Compare the facts of this story with the facts presented in your text. Which gives a clearer picture of the times? 3. What do you consider the essential facts to be remembered? Do both stories stress these same points?

Things to Do

1. Prepare to tell this story in relay to another class, who need to learn of Marco Polo's gift to Columbus, and therefore, to the world. 2. Get interesting pictures from the Perry Picture Company. Make a class booklet. 3. Use your maps to locate countries, trade routes, cities, products, and animals mentioned.

Other Selections: Marco Polo, Atherton; *Our Ancestors in Europe,* Hall.

THE SPANIEL

You probably can name a good many different kinds of dogs, but you *know* one dog better than all the rest, if you are fortunate enough to have a canine friend. Mr. Terhune tells us about the spaniel, and how its very nature has changed with its changed habits of life. Read his story and then try to write one about your playfellow which others will enjoy as much as you will enjoy this one.

There are spaniels and spaniels—a score or more of different breeds; but they are all members of one large family. Certain traits, of course, distinguish a water spaniel from a cocker, but the strong family likeness of character and intelligence runs through all of the breeds.

Like the hound, the spaniel has claim to canine aristocracy—if membership in one of the oldest families can make him so. Ancient carvings show he was used in the hunt and as a house dog thousands of years ago. In the Metropolitan Museum, in New York, is a sculptured dog, dating back to the most ancient days of art. And the dog is a spaniel.

In France, in the Middle Ages, spaniels were used for bird hunting, and splendid hunters they were. Equally at home in the forest, or in the open, or in the water, they served every possible field purpose; and the French sportsmen were envied everywhere for having such wonderful dogs.

Then along came a French king—Henry III—whose subjects hated him; and one of the chief grievances was that he kept spaniels as lapdogs, instead of putting them to their proper use in the hunting field.

He imported from Italy a breed of tiny toy spaniels and encouraged fanciers to breed smaller and smaller spaniels, until the wretched dogs were so little that Henry could hold three or four of them at a time in the velvet muff he always carried; and gave more time to his dogs than to his people.

True sportsmen resented such miserable use of fine hunting dogs. But many less red-blooded folk followed the fashions set by royalty. Thus, the toy variety of spaniel was continued—and continues to the present day

The several varieties of sporting spaniels were also continued, along the lines of strength, endurance, brain, and hunting ability. And the two kinds of spaniels grew yearly further and further apart in looks and size and nature

Then came still another split in the spaniel ranks. The public discovered that spaniels were not only fine hunters but equally fine chums. Not the shivering "toy" spaniels, but the cocker and field spaniels. And such dogs were taken from the hunting field into the homes.

Bit by bit, their popularity as pets increased, until now not one spaniel is used for hunting where twenty are kept as pets.

I think if the spaniel's opinion could be asked, he would decide that hunting is more to his taste than is mere home life. But we humans don't usually consult our dogs' tastes. Instead, we make them accommodate themselves to our own whims. And nobly do they respond to our wishes. So easily and quickly do they respond to them, that we take it all as a matter of course; and we don't stop to think what a remarkable thing is the worship of dog for man.

For example, did you ever realize that the dog is the only animal which serves mankind of its own accord? It is true. Just go over the list, for the fun of it. Of course, none of the wild animals serve man at all. They hate him and hide from him.

Then let's count up the so-called domestic animals. How many of them love man and serve him because they want to? Not one—except the dog. The horse has been captured and tamed. His descendants work for man. They don't do it because they want to, but because they must. Any thief can mount your favorite horse and ride him away from you, and you may call after the horse all day without his turning back to you. He serves you, and he will serve anyone else just as willingly.

Left to himself, the horse will go back to the wild. So will cattle. So will sheep or pigs or goats. None of them love mankind. None of them serve man, except as they have been made to. Crops and flowers go back to the wild, too, if neglected.

But, out of the whole world of animals and vegetables and minerals, the one creature that loves man is the dog. He, of his own free will, has become man's servant and friend and guard. He has turned his back on all the rest of the animals and has taken his place by the side of man. Isn't that rather wonderful?

And the dog does more: to serve man, he makes war on his fellow animals. For man's sake, he hunts down the rabbit, the fox, the wolf, the deer, the boar, and the birds. He hunts them, not for his own food, but at the command of his master, who, if the chase is successful, is first to be served.

In a world of hostile beasts, God has ordained that the dog shall be man's one and only true friend. The cat is not man's friend. She won't do a lick of work for him, except to catch mice (and she catches these for herself, not for him). She will desert him, if he moves away and if she can coax the next occupants of the house to keep her. She gets all the benefits of civilized life and she does nothing in return for them.

I think that is why the average dog hates the average cat. He knows she is not man's friend, and that she is loyal to no one but herself. And the dog resents this. Perhaps I am wrong in my idea about dogs' and cats' enmity. But the fact remains that dogs dislike cats and that they dislike no other domestic animal. They fly at cats as they fly at the wild beasts which have not surrendered to man.

Such a faithful friend is worthy of the very best and wisest treatment you can give him.

—*Albert Payson Terhune,*
Author of "Lad, A Dog."

Helps to Study

1. Get the meaning of the following phrases from the context: Different varieties, minor traits, canine aristocracy, foreign potentates, silly extravagances, chief grievances, their popularity, benefits of civilized life.

2. Make an outline of the main points in the story. 3. List all the facts that prove that the dog is man's most faithful friend.

Things to Do

1. Divide the class into two teams for a *debate* upon the relative merits of the dog and cat as a family pet. 2. Study the picture, "King Charles' Spaniels" by Landseer, and learn something of the artist.

Which of these statements best expresses the central thought of the first paragraph?

1. a. There are more than twenty breeds of spaniels.
   b. All spaniel breeds are members of the same family.
   c. Water spaniels differ in some ways from cocker spaniels.
   d. A strong family likeness of character and intelligence runs through all the breeds of spaniels.
2. Select other paragraphs and determine which sentence contains the central thought.
3. Decide which one of your classmates made the best choice.

Other Selections: Lad, A Dog, Terhune; *Rab and His Friends; Stikeen,* Muir; *Bally Shannon,* Other Soldiers, Sanford Owen.

A PERILOUS COAST

This is the story of a doctor who has braved the perils of the Labrador coast for forty years. What qualities does Dr. Grenfell possess which make him both a good doctor and a hero?

In the early spring, when the sunlight is yellow and the warm winds blow and the melting snow drips over the cliffs and runs in little rivulets from the barren hills, in the thousand harbors of Newfoundland, the great fleet is made ready for the long adventure upon the Labrador coast. The rocks echo the noise of hammer, saw and mallet, and the song and shout of the workers. The new schooners, building the winter long at the harbor side, are hurried to completion. The old crafts, the weather-beaten, ragged old crafts, which, it may be, have dodged the reefs and outlived the gales of forty seasons, are fitted with new spars, patched with new canvas and rope, calked anew, and thus refitted, float bravely enough on the quiet harbor water.

When at last word comes south that the ice is clearing from the coast, the vessels spread their little wings to the first favoring winds, and in a week, two weeks, or three, the last of the Labrador men have gone.

The little hospital ship, *Strathcona*, with the doctor

aboard darts here and there and everywhere all summer long, responding to calls, searching out the sick, and gathering patients for the various hospitals. She is never a moment idle while the waters are open. But in the fall, when navigation closes, she must go into winter quarters, and then the sick and starving are sought out by dog team and komatik. Summer journeys are hard enough, but winter travel is a matter of much greater difficulty and hardship. Not that the difficulty and hardship seem ever to be perceived by the mission doctor; quite the contrary. There is, if anything, greater delight to be found in a wild, swift race over rotten or heaving ice, or in a night in the driving snow, than in running the *Strathcona* through a nor'east gale. Many a night the doctor must get into his sleeping bag and make himself as comfortable as possible in the snow, snuggled close to his dogs for the sake of the warmth of their bodies. Six hundred miles north in the dead of winter, six hundred miles back again!

Once, when Dr. Grenfell was wintering at St. Anthony on the French shore, there came in great haste from Conch, a point sixty miles distant, a komatik with an urgent summons to the bedside of a man who lay dying of hemorrhage. And while the doctor was preparing for this journey, a second komatik, dispatched from another place, arrived with a message, "Come at once. My little boy has broken his thigh."

The doctor chose first to visit the lad. At ten

o'clock that night he was at the bedside. It had been a dark night—black dark, with the road precipitous, the dogs uncontrollable, the physician in great haste. The doctor thought many a time that there would be "more than one broken limb" by the time of his arrival.

At one o'clock in the morning the broken bone was set and the doctor had had a cup of tea; whereupon he retired to a bed on the floor and a few hours' "watch below."

At daylight it was haste away to Conch over the ice and snow, for the most of the time on the ice of the sea. When the dog train reached the coast, there was a man waiting to intercept it; the news of the doctor's probable coming had spread.

"I've a fresh team o' dogs, sir," said he, "to take you to the island. There's a man there, an' he's very sick."

Would the doctor go? Yes, he would go. But he had no sooner reached that point of the mainland, whence he was bound across a fine stretch of ice to the island, than he was again intercepted. It was a young man this time, whose mother lay ill. Would the doctor help her? Yes, the doctor would—and he did.

Off again towards Conch—now with fresh teams, which had been provided by the friends of the man who lay there dying. No, not yet; a man had brought his little son, a lad of three years, bright, healthy, light-haired, and blue-eyed.

"And what's the matter with him?" was the physician's question.

"He's a club foot, sir," was the answer.

And so it turned out, that the doctor made arrangements for sending the child to the St. Anthony Hospital, where he could without doubt be cured; and then the doctor hurried on.

Having treated the patients at Conch, he set out upon the return journey to St. Anthony.

Crossing Hare Bay, the doctor had a slight mishap —rather amusing too, he thinks.

"There was a biting nor'west wind blowing, and the temperature was ten degrees below zero. When we were one mile from the land, I got off to run and try the ice. It suddenly gave way, and in I fell. It did not take me long to get out, for I have had some little experience, and the best advice sounds odd; it is 'keep cool.' But the nearest house being at least ten miles away, it meant almost one's life to have no dry clothing. Fortunately, I had. The driver at once galloped the dogs back to the woods we had left, and I had as hard a mile's running as ever I had, for my clothing was growing to resemble the armor of an ancient knight more and more every yard, and though in my youth I was accustomed to break the ice to bathe if necessary, I never tried running a race in a coat of mail. By the time I arrived at the trees and got out of the wind, my driver had a rubber poncho spread on the snow under a snug spruce thicket, and I was soon dry and warm again."

At St. Anthony a woman's foot was amputated, and in two days the patient was talking of "getting up." Meantime a komatik had arrived in haste from a point on the northwest coast, a settlement one hundred twenty miles distant. The doctor was needed there—and the doctor went.

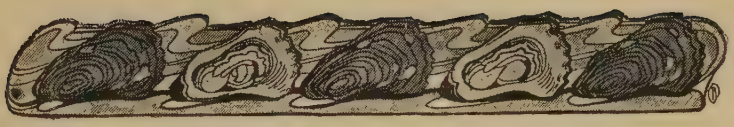
On a stormy day of last July, Dr. Grenfell carried many bundles ashore at Cartwright, in Sandwich Bay of the Labrador. The wife of the Hudson Bay Company's agent exclaimed with delight when she opened them. They were Christmas gifts from the children of the "States" to the lads and little maids of that coast. With almost all, there came a little letter addressed to the unknown child who was to receive the toy; the letters were filled with loving words, with good wishes coming from warm little hearts. The doctor never forgets the Christmas gifts. He is the St. Nicholas of that coast. The wife of the agent stowed away the gifts until the proper time should come for their distribution.

"It makes them *very* happy," she said.

Thus and all the time, in storm and sunshine, summer and winter weather, Grenfell of the Deep-sea Mission goes about doing good; if it's not in a boat, it's in a dog-sled. He is what he likes to call "a Christian man." But he is also a hero—at once the bravest and the most useful man I know.

—*Norman Duncan.*

From *Dr. Grenfell's Parish.*
Courtesy of Fleming H. Revell Company.



THE OYSTER INDUSTRY

Here is a selection taken from an encyclopaedia. If you were reading it in connection with your geography work, this is what you should do: as you read, jot down the main points concerning the oyster industry which are new to you and add the new facts to what you already know.

The most valuable single product of the fishing industry is the lowly oyster. Upwards of ten billion of them are sold every year as food to the people of twenty-five countries.

Description. The oyster is a denizen of salt water, thriving best in quiet, shallow inlets. The shell of the oyster, which forms a little house for it to live in, consists of two parts called valves, which are fastened at one end by a hinge. These valves can open about half an inch as the inmate desires. In its natural state the oyster rests on its left valve which is larger and thicker than the right one. Usually it attaches itself by this left valve to a rock or other object on the sea bottom, remaining fixed for life, and sometimes several oysters lie fixed to one another. If it so happens that there are too many in one group, or bed, the under ones may sink into the mud and die of starvation or suffocation.

Every oyster shell is lined with a fold of muscle called a *mantle,* which grows from each side of the body. The limy substance that makes up the shell is secreted in layers by the mantle, that on the inside being called *mother-of-pearl.* Anyone who examines the outside of an old oyster shell can see the succession of layers overlapping like shingles on the roof of a house. As each layer represents a season's growth, the age is judged by the thickness of the shell. It is claimed that an oyster, if left undisturbed, may live to be one hundred years old. Sometimes a grain of sand or other rather hard object becomes lodged on the inside of the shell. In such cases, to protect itself from irritation, the oyster secretes mother-of-pearl over the object and in due time a pearl is formed. The oysters that are famed as pearl makers, however, are not the edible species of the north temperate zone, but are found in the tropics.

Although the oyster has no head, being all body, it has a mouth, consisting of a funnel-shaped opening at the narrowest part of the body. This mouth is provided with minute finger-like projections, which select from the water the myriad plant and animal organisms on which the oyster feeds. In the breeding season, it has no scruple about eating its own eggs, to say nothing of the "small fry." However, as a female oyster produces on an average at least 9,000,000 eggs in a season, one may excuse her unseemly appetite.

This interesting animal has a good-sized stomach,

two pairs of gills—for breathing, heart, liver, and intestines; but is minus ears, nose, and eyes. Neither has it any feet, for it never walks or changes its home.

How It Grows. Oyster eggs are yellowish in color, and so minute that a mass of them would look like so much thick cream. A newly hatched oyster is about the size of the point of a needle; it is able to swim about freely by means of hair-like growths, or *cilia*. Soon the primitive shell is formed, and the little animal sinks to the bottom of the sea and attaches itself to a solid object, to develop into a real oyster. In a month a young oyster is about the size of a pea; at the end of a year it is as large as a silver quarter; and after that, it grows about an inch a year until it reaches full size at the end of three or four years. So many other animals prey upon oysters that they would become extinct if such countless numbers of eggs were not produced. When the swimming larvae reach the surface, they are gulped down by fish at the rate of several thousand a second, and after they begin life as fixed objects on the sea floor, they are attacked by starfish and other hungry marine enemies. One scientist has figured that a newly hatched oyster has one chance in 1,145,000 to obtain adult size.

Oyster Fishing. The popularity of the oyster as a table food is responsible for an industry of gigantic proportions. The oyster beds of the coast waters of Eastern United States, especially those of Chesapeake Bay, are among the most productive in the

world. In America, oyster fishing is carried on from Maine to Florida, in the Gulf of Mexico, in San Francisco Bay, and in the coast water of Oregon and Washington. Baltimore is the chief market for the industry, and Chesepeake Bay is the most extensive area producing oysters. Maryland, Virginia, Connecticut, Louisiana, Georgia, New Jersey, New York, South Carolina, and Rhode Island annually produce 1,000,000 bushels each; the total catch for the entire country has for many years been over 30,000,000 bushels a year, valued at $15,000,000. Maryland and Virginia together produce annually nearly 12,000,000 bushels from both public and private beds. The oyster industry is by far the leading branch of the fisheries of the United States.

In the middle latitudes the oyster harvesting season occurs during the fall and winter. In shallow waters the shells are scooped up from the sea with huge tongs or pincers, that open and shut like shears, but in deeper waters the catch is obtained by means of great dredges, operated by hand, or steam power. The business of preparing oysters for the market requires thousands of workmen. Oysters that are to be shelled, or "shucked" are placed with the edge of the shell on a chisel blade which is fixed on a block. With a sharp blow from a wooden mallet, the shucker cuts the shell through and then slipping a broad bladed knife into the gap, he lays the two valves out flat. The muscle which joins the fleshy body to the shell is next severed, and the naked oyster is ready

to be washed and packed for shipment. Unshelled oysters are also marketed in large quantities, as there is a wide demand for oysters served raw or on the half-shell.

—From *The World Book.*
Courtesy, W. F. Quarrie Company.

Help to Study

1. Use your geography or atlas for location of places mentioned. 2. Compare the location of oyster beds with that of cod fisheries. 3. Divide your class into discussion groups, appoint a chairman who will take such questions as the following: a. Find the cost of oysters by the quart or gallon, learn the average number of oysters per quart and determine the money value of the quantity sold as food each year. b. What have you learned about *mother-of-pearl* that is new to you? c. What enemies interfere with the growth of oysters? d. What is the annual output for the U. S., for Maryland and Virginia alone? e. How is oyster harvesting conducted? 4. Summarize in writing the essential facts gained from this lesson.

Other Selections: The Ocean, Murray; *Oystering,* Geography of Maryland, Twitchell; *Pearl Fisheries,* Carpenter.

A NEW WINTER SPORT

Much has been written of late in story books and magazines about the new winter sport called skiing. See what new facts you can glean from this story.

Skiing is a winter sport imported from Norway and Sweden, which is becoming more popular each year in the northern sections of the United States. Ice skating, curling, and ice boating all seem tame beside it. The newest thrill of the north is the ski. Even young lads and lassies sport a pair of skis, and great is their delight when they have learned the art of walking upon the crests of snow-banks with these long sled runners attached to their feet. It gives even greater satisfaction than walking on stilts. Hunters who remain in their mountain lodges all winter use skis in making the rounds of their traps, and in taking long trips to the nearest village, often fifty miles away.

Have you ever witnessed a ski tournament? If you have not, perhaps you have been thrilled by pictures of such an event shown at the movies. In New England among the hills, Nature has provided just the right conditions for ski-jumping; but in most places an artificial hill is built for the purpose. It reminds one of an immense toboggan slide, consisting of a wooden structure as framework, covered with ice and snow until it resembles a real hill.

The best ski jumpers in the country enter the lists at different tournaments competing for first place. Usually the honor goes to a fair, blue-eyed son who can boast the blood of Vikings in his veins. At every tournament both amateurs and professionals are to be seen. The skiers gather at the top, while the spectators stand below "outside the range of the landing" awaiting the big jump.

Look! here he comes, a black figure appearing at the top of the hill—now, sailing through the air like a bird—now, on Mother Earth once more. You draw a breath of relief when safe arrival is assured, and you shout with the others when the long jump has been made. It is a sport that thrills. It is a sport that demands skill, a skill that comes only through practice. It is wonderful what men will do to try their wings—wooden wings, at that. There is something humorous in the thought. John B. Foster has written in a humorous vein about the ski; possibly he had witnessed first attempts in imitating Hermes—the swift footed. This is what he says:

"To ski is to strap a single wooden runner—a long, slender, exaggerated sled runner—to each foot and then try to keep the feet in a state of belief that they are comrades and mates. Old feet, which have preserved a lifelong friendship ever since they can remember, no sooner become skied up than they have a falling out. One foot wishes to take the road to Jerusalem and the other is determined to take the road to Jericho. It's tough on a man, or a woman,

from the feet up, when their pedal extremities disagree so embarrassingly. Sometimes the left skied foot tries to climb a shrub while the right skied foot attempts to kick a snowdrift out of the way.

"A queer trait of the ski is that you master this arbitrary dominus of the snow by leaning uphill. It is not best to try to ski downhill on the first trial, because there is no telling what the right ski and the left ski may attempt individually to do. If the left ski decides to go to the right, and the right ski forcibly insists on going to the left, it will be well to hope that a snowdrift is somewhere near the storm-center."

—*Isobel Davidson.*

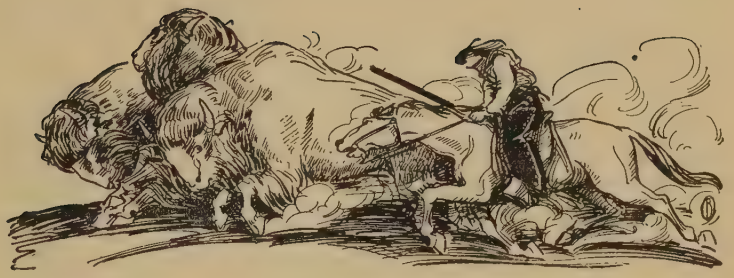
Helps to Study

1. Where is skiing imported from? 2. In what part of the United States is it a popular sport? 3. Where and by whom are skis used for business purposes? 4. What kind of hills are preferred for ski tournaments? 5. Who usually carry off the honors? Why? 6. What three characteristic qualities must a successful ski-jumper have? 7. Why are people interested in this sport? 8. What is the appearance of a ski? 9. To what two things is it compared? 10. Give one instance where, according to John B. Foster, the situation is humorous.

Things to Do

1. Read again, if you failed to answer one question correctly. 2. Collect pictures of winter sports, including skiing. 3. Note the names of the professional ski-jumpers in the local papers.

Other Selections: Camping in the Wilderness, Templeton; *Good Health*, Jewett; *Lisbeth Longfrock*, Arnold; *The Wonderful Adventures of Nils*, Lagerlof; The Skating Match, *Hans Brinker*, Dodge.



BUFFALOES AND SCOUTS

Compare this adventure of Captain Fremont and Kit Carson with thrilling experiences of cowboys on the great cattle ranches.

One hundred years ago little was known of that part of our country which lies west of the Mississippi River. Our government had but recently purchased the vast tract and had not yet had time to find out how really valuable the new territory was. It was thought to be a region inhabited by savage Indians, prairie wolves, and millions of buffaloes. Even as late as fifty years ago, we are told by one writer, "Vast herds of bisons roam over the plains and prairies between the Mississippi River and the Rocky Mountains, feeding on grass and brushwood. They are generally inoffensive, and will not attack men, but prefer to run rather than fight. During their migrations they move in such enormous herds that they cannot be counted nor their progress resisted.

Great numbers of them are killed by Indians who pursue them on horseback and subsist on their flesh. Their hides also furnish the Indians with clothing, blankets, and tents.

"The bisons are swift in running and have so keen a sense of smell that the hunter cannot easily approach near enough to shoot them. The Indians sometimes surround a herd and then, by setting fire to the grass on several sides, drive the animals in confusion toward a central place, or over a precipice, where several are sure to be killed. The chase of the bison is dangerous sport, as they sometimes turn upon their pursuers and trample them under foot."

So that was the idea many people had of the West as recent as fifty years ago. And because of our meager knowledge of the region, the government from time to time sent out exploring parties to study the country and report back to Washington what they learned. One of these parties, headed by Captain John C. Fremont with Kit Carson, a famous scout, for his guide, set out from St. Louis to explore the West. They had many adventures with wild animals and Indians. Of one of these Fremont wrote as follows:

"As we were riding along a bank, a great herd of buffalo came crowding up from the river. They had been down to the water to drink.

"The wind was favorable; the morning was cool; and the distance across the prairie gave us a good

chance to charge upon them. It was too good a chance to be lost; so Kit Carson, Maxwell, and I started out on our horses for the chase.

"The herd was half a mile away. We rode until we were about three hundred yards from them before they saw us coming. Then they began to run hither and thither, preparing for a stampede.

"We urged our horses on, and for a time rode breast to breast with them. We were closing in upon them rapidly, and those in front were tearing along like the wind. Once in a while, one in the rear would turn and face us, and then dash after the rest.

"We were now rushing over the ground like a hurricane, when Carson gave the hunter's shout to charge! and we broke upon the herd. We entered at one side, and the herd gave way before us. Many of them were thrown to the ground, and all scattered in every direction.

"My own horse was a trained hunter. With eyes flashing and the foam flying, he set upon one buffalo like a hungry tiger. We came up alongside; I fired, and the shaggy creature fell at our feet.

"Then I looked around to see what Carson was doing. He, too, had just shot down a buffalo, and away in the distance Maxwell's gun was heard.

"Between me and the hill the body of the herd was still dashing on, I turned my horse and again dashed after them. The thick cloud of dust blended and stiffled me so that I could not see the herd. They crowded closer and closer together; still I could see

nothing, and my horse nearly leaped upon them.

"Then the herd divided, and my horse rushed into the gap. Five or six of the maddened creatures charged upon us, but we left them far behind. Then singling out one of the herd, I fired. My aim was too high; the buffalo leaped into the air with a roar, then scurried on swifter than before.

"But we were now reaching a prairie dog village. I reined up my horse, and the herd tore by like the wind. It was dangerous to pursue them among the mounds, and they stretched in all directions for two miles.

"While Fremont pursued his buffalo, Kit Carson was giving chase to another. He fired, but only wounded the animal which turned and with a mad roar, charged after Carson. Just then Carson's horse stepped into a dog hole and fell.

"It was now a race for life. Carson had no time to reload or even to mount his horse. There was but one thing possible—to escape to the river. On they flew, the buffalo gaining at every jump. His roars filled the air and his hot breath was almost upon the runner when the river was reached and Carson sprang into the water.

"The chase was ended and Carson was safe, but the enraged buffalo wasn't satisfied with the outcome. He stood on the river bank bellowing and pawing the earth until Maxwell with a well directed shot ended his rage."

With the completion of railroads into the West,

that region became the sportsman's paradise. Thousands of hunters came from the East and even from Europe to engage in big game shooting. So deadly was the aim of these sportsmen that within a few years the magnificent herds had decreased to herds of only a few hundred specimens. These noble animals were killed for sport and their carcasses left on the plains—the food of wolves. At last the government put an end to the slaughter and prohibited the shooting of any more buffalo for any purpose; and under the protection of the government the herds are again increasing. It is estimated that all of the buffaloes, both in Canada and the United States now number about 10,000.

—*Big Game Hunters.*

Helps to Study

1. Test for speed and getting the full meaning of what is read. At a given signal begin to read. Teacher gives *signal* and the *topic* for *search:*
   a. Read to find out the *setting* of the selection and the narrator or story-teller.
   b. Read to learn all the conditions of the chase. If necessary, reread again.
   c. Read to find out how the men *charged* the *herd*, and with what results.
   d. Read to find out how the herd returned the charge.
   e. Get a picture of the race for life.
2. Have this story told in relay, by six pupils.

Other Selections: Capturing The Wild Horse, Irving; *The Pacing Mustang,* Thompson Seton; *Billy, The Dog That Made Good,* Thompson Seton; *The Lion Hunt,* White.

A WINTER SONG

Hurrah for the jolly old Winter!
The King of the seasons is he;
Though his breath is cold and icy,
His heart is full of glee.
He piles up the beautiful snowflakes
On the apple trees bare and brown
And laughs when the north wind shakes them,
Like a shower of blossoms, down.

Hurrah for the jolly old Winter!
He shouts at the door by night:
"Come out where the ice is gleaming
Like steel in the cold moonlight."
Like swallows over the water
The skaters merrily go:
There's health in the blustering breezes,
And joy in the beautiful snow.

—*Emily H. Miller.*

Memorize the selection by (1) *reading* this whole poem; (2) noting the pictures; (3) listing the guide words at beginning of lines, as—"Though his breath," "He piles up," etc.; (4) listing the rhyme words; and (5) setting this poem to music.

Things to Do

1. Write another verse as a class exercise. 2. Illustrate the stanza liked best. 3. Make a bibliography of poems relating to the winter season.

THE CRUSADER

Read in two and one-half minutes and be prepared to answer the test questions.

The Crusades is the name of the religious wars waged by the Christians against the Mohammedans during the Middle Ages. The Mohammedans had won the Holy City, Jerusalem, from the Christians. The religious men of western Europe feared that Christianity would now be entirely crushed out. Something must be done to stop the advance of the Mohammedans, so they urged the people to the rescue. "It is the will of God," said the people. Men and women, and later, children, too, entered upon a holy war—a war of the cross. They cut crosses from red cloth, and sewed them to their cloaks, as a sign of their allegiance. Then this great army started out across eastern Europe toward Jerusalem.

There were four principal crusades, some years apart. One of these was led by Richard The Lion Hearted, King of England, with a great array of knights and footmen, clad in armor and carrying spears and shields. A grander spectacle, it would be hard to imagine; and probably so brilliant a pageant has never been seen since, all bent upon rescuing the Holy Land from the heathen.

Terrible sufferings and dangers attended these pilgrims on their way. Many died or were captured and sold into slavery, or became ill from hunger and weariness and were forced to drop behind. One gets an idea of the movement when he is told that in the children's crusade twenty thousand French children and forty thousand German children set out to march to Jerusalem and to convert the Turks on the way. And we get still another picture when we learn that most of these children perished in their attempt. Yet after many weary months, many of the knights and foot soldiers did reach Asia. Battles were fought, and death came to many fighting for the cross, but at last the Christian army did rescue Jerusalem from the Mohammedans.

This is just a part of the story. You should read the results of the Crusades in other books. I am sure you will wish to do so.

—*Isobel Davidson.*

HELPS TO STUDY

This story is told simply to "whet your appetite." Look for more in other books. Ask yourself these questions as you read:

a. Who are Mohammedans to-day?

b. Why did the religious men have such a strong hold on the people at that time?

c. What were the conditions of Europe at that time? The story of Marco Polo tells you something about this.

d. Why did the children enter the Crusades?

Other Selections: Our Ancestors in Europe, HALL; *Little Stories of France,* DUTTON; *Stories from the Crusades,* KELUIAN; *Our Little Crusader Cousin of Long Ago,* STEIN.

A PET BEAR

Read this selection through in six minutes, and decide upon what you consider to be the most interesting part. Get ready to tell this part by glancing it through again.

We knew Timothy long before he knew us. We did not know him by name, but we knew where he lived, and we had what you might call a speaking acquaintance with his mother. It happened thus:

One day, in our explorations along the creek bed at the end of the Hill Trail, we came suddenly upon a hole in the bank. It was almost covered by long, overhanging ferns. It was on the opposite side of the creek, but we found a place where a fallen log bridged the little stream, and the next moment we were standing on the opposite side at the foot of the embankment, pushing the ferns aside and peering into the depths of a black and very inviting hole.

On hands and knees I led the way into the inky blackness with Brother close behind me. The daylight behind was blotted out. For several yards the passageway went straight ahead, then it turned suddenly to the right; and I, turning with it, stopped so abruptly that Brother coming behind bumped into me. A curious, powerful odor enveloped us, as of darkness made odorous by furry bodies and warm by living things. Then from ahead of me not more than two yards away flashed the savage gleam of two blue-green eyes. There was a menacing growl which set our spines to tingling, and at the same instant came the sound of whines and a movement as of baby things disturbed in their sleep. I was conscious of a sickish, fainting feeling, for I realized suddenly that we were in the house of a mother bear.

Brother needed no urging to make his exit. He was backing out on hands and knees far more quickly than he had come in, and I was prodding him along, followed by those menacing, hair-raising growls.

Why the lady bear did not attack us is more than I can tell. The brown bears of the northwestern woods are harmless and even friendly little persons, but the mother when protecting the young is more ferocious than a wild-cat or a mountain lion. Perhaps she knew that we meant no harm toward her or her children. At any rate we gained the entrance of the cave untouched and unharmed, but breathing heavily and with knees that were wobbling sadly.

Perhaps you think we should have stayed away

from the house of the lady bear, but we did not. We were interested, you see, in knowing how much of a family she had, and we never went along the creek bed without leaving some offering in the shape of food at the mouth of the hole. Sometimes it was an apple or a leaf of lettuce, and if nothing else availed, we broke off a licorice root fern and placed it there for her.

One day we saw the mother bear with her children, and that is how we came to name Timothy. She was at the mouth of the cave, half asleep in the warm sunshine, and the four cubs were rolling over each other like gridiron heroes in a football scrimmage. They were squealing like young pigs, and from time to time she remonstrated against their noise by a sleepy grunt. Then, as we watched, the bear cub, at the bottom of the furry pile, squeezed out and stood on his hind legs. His face was covered with brown, sandy loam, and his squinty black eyes peered out as through a mask. I knew a boy who lived at the head of the Bay whose freckled face always looked so. His name was Timothy, and that was why on the spot we so christened the bear baby.

Our next meeting with Timothy was in the nature of a near tragedy. We were hunting for trilliums in Trillium Gulch, a hidden valley to which we ourselves had cut a path from the Hill Trail. The white, lily-like flowers starred the hillside there in the spring, and it was our fond belief that no one came there but ourselves. Hunters and trappers go everywhere,

however, violating even such a woodland paradise as ours. As we went down the narrow trail, pushing aside the light branches of the alders and the fir-trees, we heard a plaintive, whining cry almost like a human voice. We stopped for an instant, listening, wondering. Then we slipped softly down the path, thrust aside the interlacing ferns, and found ourselves beside the little stream which ran like a silver ribbon through Trillium Gulch. The sounds came from the left, and following their lead we rounded a boulder in the trail and came upon a sight which filled us with gasping indignation. A little brown bear with a fleck of white on his furry throat was tugging frantically and futilely at the jaws of a steel trap which held his two front paws in a cruel, biting grip.

I do not like even now to think of the half-hour which followed. So strong was the steel trap that the combined efforts of Brother and myself could only pry the cruel jaws apart the fraction of an inch. We were hampered, too, in our work of mercy by poor little Timothy, who did not realize that we were trying to help him, and bit at us and scratched with his hind feet. Our hands were soon covered with blood, and there was a long, jagged line of red on Brother's face where the baby bear had clawed him. But we did not pause in our efforts. Finally, by the aid of a stout stick, we managed to open the jaws of the vicious trap, and the poor little fellow, his front paws cruelly torn and bleeding, whimpered like a baby, and sitting down on his haunches, began to lick his

wounded paws, stopping at intervals to hold them out in front of him like a child whose finger is hurt and wants it made well by a kiss.

Strangely enough, he was not afraid of us now, and when I took him in my arms, his plaintive whimpering gradually ceased, and he licked at his paws solicitously.

No doubt we should have taken Timothy back to his mother and trusted to nature to heal his grievous hurts. But nature would take too long, and in the meantime he would suffer cruelly.

When we rescued him from the trap, he was a very tiny bear, being no larger than Tinker, our black and tan rat terrier. He slept in a clothes basket on the back porch, sometimes having for a bed fellow Three-Spot, the mottled black and white cat. Three-Spot at first had been greatly alarmed by Timothy's rough and sportive overtures of friendship. But when she found that by boxing his ears she could correct his manners and set him yelping with fright, she took to imposing upon his good nature by making him serve at night for a mattress. In the morning we would find the two of them curled up together, Timothy snoring gently and Three-Spot digging her paws into his soft, thick fur with a purr of content.

He thrived on milk. Even after he outgrew the need of milk, he clung to the bottle habit and would sample the contents of any bottle he found. We used to bring him ginger ale from town and soda pop of all flavors. If nothing else was handy, we filled a bat-

tered old canteen with sweetened water, and he would tilt back on his hind legs, hold the canteen perpendicularly aloft, close his eyes, and drink it slowly, making funny little rumbling noises deep in his throat which, Brother maintained, were imitations of Three-Spot's purring.

We worried a little at first as to what else we should give him besides milk, but we need not have concerned ourselves. Timothy's appetite was without limits, and he could eat anything—bread, meat scraps, griddle cakes, or cold potatoes. On top of the civilized food we fed him, he hunted on his own account for certain roots he liked, clawed the bark from fallen logs to get the white grubs underneath, and buried his head at the foot of hollow stumps where the red ants had made their hills. After an hour or two of such foraging, he would return to us, his face and paws besmeared with loam and covered with cobwebs, his furry coat rusty with sand and tagged by twigs and strands of blackberry vine. He would blink at us questioningly, a trifle shamefacedly, running his small red tongue along the sides of his mouth, and we would shake our heads and say mournfully, "Oh, Timothy, you dirty bear!"

After such excursions we always gave him a bath in the big washtub, and though he knew there was no escaping it, he always squealed and struggled while we lathered him, and only ceased his whining when we had rinsed him and put him in the sun to dry, giving him a bottle of sugared water to quiet him.

He was the merriest playfellow we ever had. He went with us everywhere—up the Hill Trail, into the orchard, and out on the bay when we sailed our little boat and played that we were pirates. Timothy never objected to anything except a bath. We dressed him in outlandish costumes, sometimes with a red bandanna tied around his head, a shawl looped about his fat and furry body, and a wooden knife stuck in his belt. He was always ready to wrestle with us, to climb hills with us, or to be a pillow for our heads as Brother and I lay through the long, drowsy, summer afternoons and read fairy tales aloud to each other, or described the shapes we saw in the clouds.

When the late fall came, Timothy remembered he was a bear long enough to have a desire to go to bed for the winter, but what chance had a tired bear for a seasonal sleep when living in the same house with Tinker, Three-Spot, Brother, and myself? We would drag him from his clothes basket while he whimpered with half-closed eyes, and Tinker would badger him into wakefulness and a game of tag. Then the four of us would go through the orchard up to the Hill Trail, pushing each other into the drifts of dead leaves and playing hide and seek around stumps and logs.

Of course Timothy could not stay with us always; that was too much to expect. He belonged to the woods, and sooner or later he must obey their call. He had belonged to us for almost a year, and it was

only right that the out-of-doors should at last claim her child. But when the call of the wild did come, we were sorry in spite of ourselves, and when Timothy's absences came more and more frequently and the intervals of time he spent with us lessened, we missed him sorely until finally he returned no more.

—*Emma Lindsay Squier.*

Courtesy, Good Housekeeping.

Helps to Study

1. Fill in the details of the following outline:
   a. Our explorations and what came of them.
   b. Saving Timothy from tragedy.
   c. Timothy as a household pet.
   d. His return to the woods.
2. Ask four interesting questions of your classmates.
3. List the five Senses, and under each write the phrases indicating its use, as follows:

Hearing	Seeing	Tasting	Smelling	Feeling
menacing growl, sound of whines speaking acquaintance.	hole in the bank, long overhanging ferns, etc.	milk soda pop, etc.	curious, powerful odor, warm living things, etc.	bumped into me, set our spines to tingling, etc.

Things to Do

1. Make a bibliography of Animal Stories including Bear Stories, or include only Hibernating Animals. Follow some such plan as follows, using library cards, if you desire.

Title	*Author*	*Book or Reference*	*Notes*
The Pet Bear	E. L. Squier	*Lincoln Reader*, Book VI	Interesting narrative

Other Selections: Little Foamy Chops, Adventures with a Grizzly, Thompson Seton; *Hunting Big Game, Winning of the West*, Roosevelt.

IN A CHOCOLATE SHOP

Question: where chocolate comes from and how it is prepared for market.

Read the story as quickly as you can, decide upon the scenes for its presentation, choose your characters for each part, and read the story again. Each player will get her points for her part and each member of the audience will be ready to check on correctness of detail.

It was after school. Mary and Agnes were about to pass the new chocolate shop, when Agnes said, "Let's go in." Mary needed no urging, and a moment later the two girls were seated at a dainty table ready to be served.

Glancing over at the show cases, the girls observed that most of the candies were chocolates. Upon reading the bill of fare, they noticed that chocolate ice cream headed the list; and that chocolate in one form or another was served in many of the delicacies of the shop.

"Where does chocolate come from?" asked Mary, "and how is it made?"

"Oh, ah—it comes from the chocolate shop," laughed Agnes. "No, really, Mary, I don't know."

"Good! that gives me an idea," exclaimed Mary. You know we have to give a topic report Friday. Let's take Chocolate for our topic and look it up in that new encyclopaedia at school."

"Oh, yes, let's do it," agreed Agnes; and this is what they found.

Chocolate, a paste, or cake, made of the kernels of the cacao tree, ground and combined with sugar, vanilla, cinnamon, or other flavoring substances; also a beverage made by dissolving chocolate in boiling water or milk. It was a popular drink in Mexico long before the arrival of the Spaniards, and has now become a favorite beverage throughout the entire world.

The cacao tree is a native of Central and South America, where it often attains a height of twenty feet. Its leaves are oval-shaped, green above and red beneath. The flowers have five red petals and grow directly from the trunk and larger branches. The fruit is shaped like a cucumber, with a thick, tough husk, and hangs almost stemless from the trunk of the tree. Each pod holds from twenty to forty almond-shaped beans, and within each bean is a dark brown kernel called the *nib*.

Cacao trees are grown from seed in a nursery. When about a foot high, they are transplanted to the fields to the number of two hundred fifty to the acre. The trees begin bearing at four years old and continue for many years. A fair yield is two pounds of beans per tree, or five to six hundred pounds per acre.

Much of the work of harvesting the beans is done by negroes and Indians. They use a curved knife on the end of a long pole to cut off the pods, and

catch them as they fall. Other workers open the pods with a knife and scoop out the beans. Finally, after much sweating and washing and stirring and rubbing to remove the pulp and to get them perfectly clean, the beans are put into bags ready for the market.

The first step in the manufacture of chocolate and cocoa is the roasting of the cacao bean. Roasting develops the flavor of the beans, dries the husk so that it can easily be broken off and removes the moisture from the beans so that they can be easily crushed.

The beans next pass through the crusher which breaks down the beans and separates the *nibs* from the eyes and husks. It is from the nibs that chocolate and cocoa are made.

The nibs are next placed in the milling machine, the heat from which, as the nibs pass through, convert the small particles into a liquor, and this in turn is run into molds and cooled.

In producing cake chocolate, sugar and milk are added to the liquor. This mixture is then ground and stirred until the mass acquires just the right firmness, smoothness, and flavor. After the molds cool off, the cakes are packed in boxes ready for the shops and stores.

—*Courtesy, Hershey Company.*

Other Selections: South America, CARPENTER; *How We Are Fed,* CHAMBERLAIN; Industrial Pamphlet, *Cocoa and Chocolate,* Walter Baker and Company, Dorchester, Mass.; *Mary Frances Cook Book,* FRYER.

FRICTION

What makes ice slippery?
How does a brake stop a car?
Why do things wear out?

It would not be such a calamity if we were to turn off friction from the world. Still, I doubt whether we should want to leave it off much longer than was necessary for us to see what would happen. Suppose we imagine the world with all friction removed:

A man on a bicycle can coast forever along level ground. Ships at sea can shut off steam and coast clear across the ocean. No machinery needs oiling. The clothes on your body feel smoother and softer than the finest silk. Perpetual motion is an established fact instead of an absolute impossibility; everything that is not going against gravity will keep right on moving forever or until it bumps into something else.

But, if there is no friction and you want to stop, you cannot. Suppose you are in an automobile when all friction stops. You speed along helplessly in the direction you are going. You cannot steer the machine—your hands would slip right around on the steering wheel, and even if you turn it by grasping the spoke, your machine still skids straight forward. If you start to go up hill, you slow down, stop, and

then before you can get out of the machine you start backward down the hill again and keep on going backward until you smash into something.

A person on foot does not fare much better. If he is walking at the time friction ceases, the ground is suddenly so slippery that he falls down and slides along on his back or stomach in the same direction he was walking, until he bumps into something big or starts to slip up a slope. If he reaches a slope, he, like the automobile, stops an instant a little way up, then starts sliding helplessly backward.

Another man is standing still when the friction is turned off. He cannot get anywhere. As soon as he starts to walk forward, his feet slip out from under him and he falls on his face. He lies in the same spot no matter how he wriggles and squirms. If he tries to push with his hands, they slip over the rough ground more easily than they now slip through air. He cannot push sideways enough even to turn over. If there happens to be a rope within reach and one end is tied to a tree, he might try to take hold of the rope to pull himself along. But no matter how tightly he squeezes, the rope slips right through his hands when he starts to pull. If, however, there is a loop in the rope, he can slip his hand through the loop and try to pull. But the knots with which the rope is tied, immediately come untied and he is as helpless as ever.

Even if he takes hold of a board fence, he is no more successful. The nails in the board slip out of their

holes and he is left with a perfectly slippery and useless board on the ground beside him for a companion. As it grows cold toward evening he may take some matches out of his pocket and try to start a fire. Aside from the difficulty of his being unable to hold them except by the most careful balancing or by shutting them up within his slippery hands, he is entirely incapable of lighting them; they slip over the cement beneath him or over the sole of his shoe without the least rubbing.

But we can increase or decrease friction a great deal. If we make things rough, there is more friction between them than if they are smooth. If we press things tightly together, there is more friction than if they touch lightly. A nail in a loose hole comes out easily, but in a tight hole it sticks; the pressure has increased the friction. A motorman in starting a trolley car sometimes finds the track so smooth that the wheels whirl around without pushing the car forward; he pours some sand on the track to make it rougher, and the car starts. When you put on new shoes, they are so smooth on the bottom that they slip over the ground because of the lack of friction. If you scratch the soles, they are rougher and you no longer slip. If you try to pull a stake out of the ground, you have to squeeze it harder than the ground does or it will slip out of your hands instead of slipping out of the ground.

There are always two results of friction: heat and wear. Sometimes these effects of friction are

helpful to us, and sometimes they are quite the opposite. The heat from friction is helpful when it makes it possible for us to light a fire, but it is far from helpful when it causes a hot box because of an ungreased wheel on a train or wagon, or burns your hands when you slide down a rope. The wear from friction is helpful when it makes it possible to sandpaper a table, scour a pan, scrub a floor, or erase a pencil mark; but we don't like it when it wears out automobile tires, parts of machinery, and our clothes.

Experiment. Hold a nail against a grindstone while you turn the stone. Notice both the wear and heat. Let the nail rest lightly on the stone part of the time and press hard part of the time. Which way does the nail get hotter? Which way does it wear off more quickly?

Why we oil machinery. We can decrease friction by keeping objects from pressing tightly against each other, and by making their surfaces smooth. The most common way of making surfaces smooth is by oiling or greasing them. A film of oil or grease makes things so smooth and slippery that there is very little friction. That is why all kinds of machinery will run so smoothly if they are kept oiled. And since the oil decreases friction, it decreases the wear caused by friction. So well-oiled machines last much longer than machines that are not sufficiently oiled.

Why ball bearings are used. There is much less friction when a round object rolls over a surface than when two surfaces slide over one another, unless the

sliding surfaces are very smooth; think how much easier it is to pull a wagon forward than it would be to take hold of the wheels and pull the wagon sidewise. So when you want the least possible friction in a machine, you use ball bearings. The bearings are located in the hub of a wheel. Then, instead of the axle rubbing against the hub, the bearings roll inside of the hub. This causes very little friction; and the friction is made still less by keeping the bearings oiled.

Application. Suppose you were making a bicycle:—in which of the following places would you want to increase the friction, and in which would you want to decrease it—handle grips, axles, pedals, tires, pedal cranks, the sockets in which the handle bar turns, or the nuts that hold the parts together?

—*C. W. Washburne*,

From *Washburne's Common Science, Copyright 1920, By World Book Company, Yonkers-on-Hudson, New York.*

Helps to Study

The above selection is taken from a book called *Common Science*. In order to study such material effectively, one must be able to organize what is read. Here is a simple method of procedure:

1. Read through the entire story.
2. Set down the main points in order.
3. Reread; and as you read, jot down such points as you missed in the first reading.
4. Regroup your main points under three general headings.
5. Give a summary at the end.

Other Selections: Little Friction Match, Tappan; *Turning the Grindstone*, Franklin.

AN HOUR ON THE ICE

The old Romans had this motto: "To be rather than to seem to be." See if you think this motto might be used for the title to this story.

"Now," said Wardle, after lunch, "what say you to an hour on the ice? We shall have plenty of time."

"Capital!" said Benjamin Allen.

"Prime!" cried Bob Sawyer.

"You skate, of course, Winkle?" said Wardle.

"Ye-yes, oh, yes," replied Winkle. "I-I-am *rather* out of practice, however."

"Oh, it is *so* graceful," remarked a young lady.

A second young lady said it was elegant, and a third expressed her opinion that it was "swanlike."

"I should be very happy, I'm sure," said Mr. Winkle, reddening, "but I have no skates."

This objection was at once overruled. Trundle had a couple of pairs, and the fat boy announced that there were half a dozen more downstairs; whereat Mr. Winkle expressed exquisite delight, and looked exquisitely uncomfortable.

Old Wardle led the way to a pretty, large sheet of ice; and the fat boy and Mr. Weller having shoveled and swept away the snow which had fallen during the night, Mr. Bob Sawyer adjusted his skates with a dexterity which to Mr. Winkle was

perfectly marvelous, and described circles with his left leg, and cut figures of eight; and inscribed upon the ice, without once stopping for breath, a great many other and astonishing devices, to the great satisfaction of Mr. Pickwick, Mr. Tupman, and the ladies; and then old Wardle and Benjamin Allen, assisted by the aforesaid Bob Sawyer, performed some mystic movements which they called a reel.

All this time Mr. Winkle with his face and hands blue with the cold, had been forcing a gimlet into the soles of his shoes, and putting his skates on with the points behind, and getting the straps into a tangled state, with the assistance of Mr. Snodgrass, who knew rather less about skates than a Hindoo. At length, however, with the assistance of Mr. Weller the unfortunate skates were firmly screwed and buckled on, and Mr. Winkle was raised to his feet.

"Now then, sir," said Sam, in an encouraging tone, "off with you, and show 'em how to do it."

"Stop, Sam, stop!" said Mr. Winkle, trembling violently, and clutching hold of Sam's arms with the grasp of a drowning man, "How slippery it is, Sam!"

"Not an uncommon thing upon ice, sir," replied Mr. Weller. "Hold up, sir!"

This last observation of Mr. Weller's bore reference to a demonstration Mr. Winkle made, at the instant, of a frantic desire to throw his feet in

the air and dash the back of his head on the ice in a very unswanlike manner.

"These—these—are very awkward skates; are they not, Sam?" inquired Mr. Winkle, staggering.

"Now, Winkle," cried Mr. Pickwick, quite unconscious that there was anything the matter. "Come; the ladies are all anxiety."

"Yes, yes," replied Mr. Winkle with a ghastly smile, "I'm coming."

"Just a-goin' to begin," said Sam, endeavoring to free himself. "Now, sir, start off."

"Stop an instant Sam," gasped Mr. Winkle, clinging most affectionately to Mr. Weller. "I find I've got a couple of coats at home that I don't want, Sam. You may have them, Sam."

"Thank'ee, sir," replied Mr. Weller.

"Never mind launching your hat, Sam," said Mr. Winkle, hastily. "You needn't take your hand away to do that. I meant to have given you five shillings this morning for a Christmas box, Sam. I'll give it to you this afternoon, Sam, if you will help me out of this."

"You're very good, sir," replied Mr. Weller.

"Just hold me at first, will you, Sam?" said Mr. Winkle. "There—that's right. I shall soon get in the way of it, Sam. Not too fast, Sam; not too fast."

Mr. Winkle, stooping forward with his body half doubled up, was being assisted over the ice by Mr. Weller in a very singular and unswanlike

manner, when Mr. Pickwick most innocently shouted from the opposite bank:

"Sam!"

"Sir?" said Mr. Weller.

"Here. I want you."

"Let go, sir," said Sam. "Don't you hear the governor a-calling? Let go, sir."

With a violent effort Mr. Weller disengaged himself from the grasp of the agonized Mr. Winkle, and in so doing administered a considerable impetus to him. With an accuracy, which no amount of practice could have insured, that unfortunate gentleman bore swiftly down into the center of the reel at the very moment when Mr. Bob Sawyer was performing a flourish of unparalleled beauty.

Mr. Winkle struck wildly against him, and with a loud crash they both fell heavily down. Mr. Pickwick ran to the spot. Bob Sawyer had risen to his feet, but Mr. Winkle was far too wise to do anything of the kind on skates. He sat on the ice, making efforts to smile, but anguish was shown on every feature.

"Are you hurt?" inquired Mr. Benjamin Allen, with great anxiety.

"Not much," said Mr. Winkle, rubbing his back very hard.

"I wish you'd let me bleed you," said Mr. Benjamin with great eagerness.

"No, thank you," replied Mr. Winkle hurriedly. "I'd rather not."

"What do you think, Mr. Pickwick?" inquired Bob Sawyer.

Mr. Pickwick was excited and indignant. He beckoned to Sam and said in a stern voice, "Take his skates off."

"No; but really I had scarcely begun," remonstrated Mr. Winkle.

"Take his skates off," repeated Mr. Pickwick, firmly.

The command was not to be disobeyed. Mr. Winkle allowed Sam to obey it in silence.

"Lift him up," said Mr. Pickwick; Sam assisted him to rise.

Mr. Pickwick retired a few paces apart from the bystanders; and, beckoning his friend to approach, fired a searching look upon him, and uttered in a low but distinct and emphatic tone these remarkable words:

"You're a humbug, sir."

"A what?" said Mr. Winkle starting.

"A humbug, sir. I will speak plainer if you wish it. An impostor, sir."

With these words Mr. Pickwick turned slowly on his heel and rejoined his friends, and the incident was closed.

—*Charles Dickens,*
From the *Pickwick Papers.*

Other Selections: Hans Brinker and the Skates, LAGERLOF; *Toby Tyler,* BUTTERWORTH; *A New Winter Sport,* DAVIDSON.

THE BOY SCOUT MOVEMENT

The only way to become a good citizen is by practice. Find out what Roosevelt has to say about the Boy Scout Movement as one way to attain ideals and practical citizenship.

I quite agree with Judge Lindsey that the Boy Scout Movement is of peculiar importance to the whole country. It has already done much good, and it will do far more. . . .

It does not try to make soldiers of boy scouts, but to make boys who will turn out as men to be fine citizens; and who will, if their country needs them, make better soldiers for having been scouts. No one can be a good American unless he is a good citizen, and every boy ought to train himself so that as a man he will be able to do his full duty to the community. I want to see the boy scouts not merely *utter fine sentiments*, but act on them; not merely sing, "My Country, 'Tis of Thee," but act in a way that will give them a country to be proud of.

But the boy can do an immense amount right in the present, entirely aside from training himself to be a good citizen in the future; and he can only do this if he associates himself with other boys. Let the boy scouts see to it that the best use is made of the parks and playgrounds in their villages and home

town. A gang of toughs may make a playground impossible; and if the boy scouts in the neighborhood of that particular playground are fit for their work, they will show that they won't permit any such gang of toughs to have its way. Moreover, let the boy scouts take the lead in seeing that the parks and playground are turned to a really good account. I hope, by the way, that one of the prime teachings among the boy scouts will be the teaching against vandalism. Let it be a point of honor to protect birds, trees, and flowers, and so to make our country more beautiful and not more ugly, because we have lived in it.

Let the boy stand stoutly against his enemies both from without and from within; let him show courage in confronting fearlessly one set of enemies, and in controlling and mastering the others. Any boy is worth nothing if he has not the courage to stand up squarely against the forces of evil, and courage to stand up in the right path. Let him be unselfish and gentle, as well as strong and brave. It should be a matter of pride to him that he is not afraid of anyone, and that he scorns not to be gentle and considerate to everyone, and especially to those who are weaker than he is. If he doesn't treat his mother and sisters well, then he is a poor creature no matter what else he does; just as a man who doesn't treat his wife well is a poor kind of citizen no matter what his other qualities may be.

And, by the way, don't ever forget to let the boy know that courtesy, politeness, and good

manners must not be neglected. They are not little things, because they are used at every turn in daily life. Let the boy remember also that in addition to courage, unselfishness, and fair dealing, he must have efficiency, he must have knowledge, he must cultivate a sound body and a good mind, and train himself so that he can act with quick decision in any crisis that may arise. Mind, eye, muscle—all must be trained so that the boy can master himself, and thereby learn to master his fate. I heartily wish all good luck to the movement.

—*Theodore Roosevelt.*

Helps to Study

1. Where, when, by whom, and to whom was this letter written? 2. How does he sum up the Boy Scout Movement? 3. Find some sentences worth quoting, as written, and copy them in your notebook. 4. Read again to find the points in which you need to become master of yourself.

Things to Do

1. Form a scout patrol or a branch of one. 2. Learn the Scout Oath. How is the Boy Scout Oath better than this one from the days of chivalry, "Live pure, speak the truth, right wrong, and follow the gleam"? 3. Set up *one* scout standard each week and pledge yourself to live up to it by doing something that expresses the idea. "Build habits—and *build good* ones." 4. Read more about Roosevelt; Judge Lindsey.

Other Selections: How to Become a Scout, Book V; *Chivalry Through the Ages,* Alexander; Boy Scout Manual; *The Knight's Toast,* Sir Walter Scott; *King Arthur and His Knights,* Radford-Warren; *The Manly Life,* Van Dyke.

A SIMPLE AIRPLANE

A boy-sized imitation of the automobile has long been a common sight. But this fad takes a seat very near the rear when a late model flying machine is within reach, especially one which comes within the means of every boy.

As for its flying qualities, this little wonder will outdo almost any model of its size. Its make-up is simple, having only the spruce or fiber planes, bamboo main bar, and rubber, from which the little flyer receives its propelling power.

By referring to Fig. 1, you can get a general idea of the construction of the airplane or glider. The main bar A is a piece of split bamboo about ten and one-half inches long by one-fourth inch wide and one-sixteenth of an inch thick. If there is an old porch screen around, the bamboo from that will make excellent main bars for an airplane of this sort; but do not ruin a perfectly good screen for

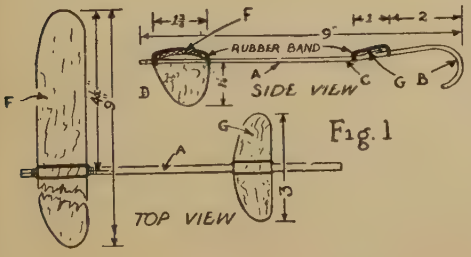


Fig. 1

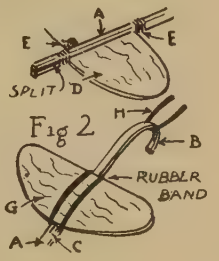


Fig 2

your bamboo. The end is heated over a flame, so as to soften it, and then is bent into a burned down hook B, over which the rubber H, for launching, is to be looped as shown in Fig. 2. Three inches from the hooked end a slight downward bend C is given the bamboo.

The keel D, Figs. 1 and 2, is made of thin spruce one thirty-second of an inch thick, or of heavy fiber similar to that used for blank-book covers, and measures one and one-fourth inches high by one and three-eighths inches wide. One end is rounded off, as shown in the illustrations. If thin wood is used, be sure the grain runs up and down and not across, as then it could be easily broken off. Take your jackknife and split the rear end of the bamboo main bar for a distance of about two inches (the opposite end to that which you have already formed into a hook). Be careful not to let it split too far, as the bamboo is apt to do, and you will find that it will separate very nicely.

Now put a little glue (a five cent tube contains enough) on either side at the top, straight edge of the keel D, and insert it into the split of the bamboo so that the rear edge of it comes about half an inch from the rear end of the bamboo. Put a daub of glue on the bamboo bar just in front and to the rear of the keel, and wrap a piece of linen thread E, Fig. 2, tightly around the bamboo five or six times, tying the ends together when finished. After this is done, it might be a good idea to cover the thread with

glue. This tends to strengthen the joint. If properly wrapped, this method of fastening the keel will be found very substantial.

Now comes the question of making the planes or wings of our airplane. Here again either thin wood about one thirty-second of an inch thick or heavy fiber is used. When wood of this thickness cannot be obtained, the fiber will do very well. The large or rear plane F is nine inches long, one and three-eighths inches wide. Each end is rounded off, as shown in the top view, Fig. 1. If wood is used, the plane should be held over a flame to soften and then bent fore and aft so as to have a concave surface on the under side, as shown in the side view. If you are using fiber, this concave curve can be made by firmly holding the plane along the edge of a straight-sided table, leaving one edge of the plane project over the edge of the table top and then with the other hand push down the projecting edge of the plane. This concave surface tends to give more stability and lift to the airplane. The center of the plane is found, and then, with the convex side up, the plane is fastened to the bamboo bar, just over the keel by wrapping several times with a rubber band. Wrap first over the plane then under the bamboo bar, up and back and over the plane until the plane is securely held in place.

The front small plane G, is cut, curved, and fastened to the bamboo bar in the same way as you did the large or rear plane, except that this plane

is three inches long by one inch wide, and the front edge is fastened about two inches from the hooked end of the main bar.

To fly the airplane we must have a good sling, H. Four or five long rubber bands will answer the purpose, if a long strand of rubber cannot be obtained. One looped end is slipped up over the front hook of the airplane and the other end is held between the thumb and forefinger of the left hand. With the right hand hold the airplane by the keel; pull it back, and let go, at the same time dropping your left hand down out of the way. If the airplane dives, heat the bamboo bar at the point C again and then bend it down a trifle more.

After you have had a little practice, flights of every description can be made. If you desire it to loop the loop, bend down the bamboo bar at the point C, which gives the front plane a greater angle than the rear plane, thus tending to make the airplane rise quickly and loop. If the airplane turns to the right, possibly the large plane is not centered, or else the right tip of the plane is bent down or the left tip bent up. A left turn indicates the opposite faults. To insure good flights both planes should be parallel to each other and at right angles to the keel.

The writer has made flights with this sort of airplane of over seven hundred feet and lasting fully three-quarters of a minute.

—*Percy Pierce.*

THE YOUNG ARTIST

You remember Wm. Penn and the Quakers who believed in plain living and high thinking? They dressed in simple garb, and lived in plain surroundings, finding their pleasure in the beauties of nature and joy in pleasant thoughts. They did not look with much favor upon the arts, yet when an artist appeared among them, they were proud of his talent and his work. One of these artists was Benjamin West. Find out how his talent had a chance to grow. Outline the story to aid in reproducing it.

In the year 1738 there came into the world in the town of Springfield, Pennsylvania, an infant from whom his parents and neighbors looked for wonderful things.

A famous preacher of the Society of Friends had prophesied about little Ben, and foretold that he would be one of the most remarkable characters that had appeared on earth since the days of William Penn. On this account the eyes of many people were fixed on the boy. Friend West and his wife were thought to be very fortunate in having such a son.

Little Ben lived to the ripe age of six years without doing anything worthy to be told in history. But one summer afternoon, in his seventh year, his mother put a fan into his hand and bade him keep the flies away from the face of a little babe who lay asleep in the cradle. She then left the room.

The boy waved the fan to and fro, and drove away the buzzing flies whenever they had the impertinence to come near the baby's face. When they had all flown out of the window, or into distant parts of the room, he bent over the cradle, and delighted himself with gazing at the sleeping infant.

"How beautiful she looks!" said Ben to himself. "What a pity it is that such a pretty smile should not last forever!"

Now, Ben, at this period of his life, had never heard of that wonderful art by which a look, that appears and vanishes in a moment, may be made to last for hundreds of years.

On a table near at hand there were pens and paper, and ink of two colors, black and red. The boy seized a pen and a sheet of paper, and, kneeling down beside the cradle, began to draw a likeness of the infant. While he was busied in this manner, he heard his mother's step approaching, and hastily tried to conceal the paper.

"Benjamin, my son, what hast thou been doing?"

inquired his mother, observing marks of confusion in his face.

At first Ben was unwilling to tell; for he felt as if there might be something wrong in stealing the baby's face, and putting it upon a sheet of paper. However, as his mother insisted, he finally put the sketch into her hand, and then hung his head, expecting to be well scolded. But when the good lady saw what was on the paper, in lines of red and black ink, she uttered a scream of surprise and joy.

"Bless me!" cried she. "It is a picture of little Sally!" And then she threw her arms round our friend Benjamin, and kissed him so tenderly that he never afterward was afraid to show his drawings to his mother.

As Ben grew older he was observed to take vast delight in looking at the hues and forms of nature. For instance, he was greatly pleased with the blue violets of spring, the wild roses of summer, and the scarlet flowers of early autumn.

In the decline of the year, when the woods were variegated with all the colors of the rainbow, Ben seemed to desire nothing better than to gaze at them from morn till night. The purple and golden clouds of sunset were a joy to him. And he was continually endeavoring to draw the figures of trees, men, mountains, houses, cattle, geese, ducks, and turkeys, with a piece of chalk, on barn doors or on the floor.

In those old times the Mohawk Indians were still numerous in Pennsylvania. Every year a party of

them used to pay a visit to Springfield because the wigwams of their ancestors had formerly stood there. These wild men grew fond of little Ben, and made him very happy by giving him some of the red and yellow paint with which they were accustomed to adorn their faces. His mother, too, presented him with a piece of indigo.

Thus he had now three colors,—red, blue, and yellow,—and could manufacture green by mixing the yellow with the blue. Our friend Ben was overjoyed, and doubtless showed his gratitude to the Indians by taking their likenesses in the strange dresses which they wore, with feathers, tomahawks, and bows and arrows.

But all this time the young artist had no paint brushes; nor were there any to be bought, unless he sent to Philadelphia on purpose. However, he was a very ingenious boy, and resolved to manufacture paint brushes for himself. With this design he laid hold upon—what do you think? Why, upon a respectable old black cat, who was sleeping quietly by the fireside.

"Puss," said little Ben to the cat, "pray give me some of the fur from the tip of thy tail."

Though he addressed the black cat so civilly, yet Ben was determined to have the fur, whether she were willing or not. Puss who had no great zeal for the fine arts would have resisted if she could; but the boy was armed with his mother's scissors, and so clipped off fur enough to make a paint brush.

This was of so much use to him that he applied to Madam Puss again and again, until her warm coat of fur had become so thin and ragged that she could hardly keep comfortable through the winter.

About this period, friend West received a visit from Mr. Pennington, a merchant of Philadelphia, who was likewise a member of the Society of Friends. The visitor, on entering the parlor, was surprised to see it ornamented with drawings of Indian chiefs and of birds with beautiful plumage, and of wild flowers of the forest. Nothing of the kind was ever seen before in the home of a Quaker farmer.

"Why, friend West," exclaimed the Philadelphia merchant, "what has possessed thee to cover thy walls with all these pictures? Where on earth didst thou get them?"

Then friend West explained that all these pictures were painted by little Ben, with no better materials than red and yellow ochre and a piece of indigo, and brushes made of the black cat's fur.

"Verily," said Mr. Pennington, "the boy hath wonderful faculty. Some of our friends might look upon these matters as vanity; but little Benjamin appears to have been born a painter, and Providence is wiser than we are."

The good merchant patted Benjamin on the head, and evidently considered him a wonderful boy. When his parents saw how much their son's drawings were admired, they, no doubt, remembered the prophecy of the old Quaker preacher.

One evening, shortly after Mr. Pennington's return to Philadelphia, a package arrived at Springfield directed to our little friend Ben.

"What can it possibly be?" thought Ben, when it was put into his hands. "Who can have sent me such a great square package as this?"

On taking off the thick brown paper in which it was wrapped, behold! there was a paint box, with a great many cakes of paint, and brushes of various sizes. It was the gift of good Mr. Pennington. There were likewise several squares of canvas, such as artists use for painting pictures upon, and, in addition to all these treasures, some beautiful engravings of landscapes. These were the first pictures that Ben had ever seen, except those of his own drawing.

What a joyful evening was this for the little artist! At bedtime he put the paint box under his pillow, and got hardly a wink of sleep; for all night long his fancy was painting pictures in the darkness.

In the morning he hurried to the garret, and was seen no more till the dinner hour; nor did he give himself time to eat more than a mouthful or two of food before he hurried back to the garret again.

The next day he was just as busy as ever; until at last his mother thought it time to ascertain what he was about. She accordingly went to the garret.

On opening the door the first object that presented itself to her eyes was our friend Benjamin, giving the last touches to a beautiful picture. He had copied portions of two of the engravings, and made one

picture out of both, with such admirable skill that it was far more beautiful than the originals.

"My dear child, thou hast done wonders!" cried his mother. The good lady was delighted. And well she might be proud of her boy; for there were touches in this picture which old artists, who had spent a lifetime in the business, need not have been ashamed of.

Many a year afterward, this wonderful production was exhibited in the Royal Academy in London.

Well, time went on, and Benjamin continued to draw and paint pictures until he had now reached the age when it was proper that he should choose a business for life. His father and mother were in considerable perplexity about him. Now what advantage could the world expect from Benjamin's pictures?

Finally, they came to a very wise decision. It seemed evident that Providence had created Benjamin to be a painter, and had given him abilities which would be thrown away in any other business. All consented that he should go forth into the world and learn to be a painter by studying the best pictures of ancient and modern times.

So our friend Benjamin left the dwelling of his parents, and his native woods and streams, and the good Quakers of Springfield, and the Indians who had given him his first colors. He went first to Philadelphia and afterward to Europe.

When he was twenty-five years old, he went to

London and established himself there as an artist. In due course of time he acquired great fame by his pictures and was made chief painter to King George III. When the Quakers of Pennsylvania heard of his success, they felt that the prophecy of the old preacher as to little Ben's future eminence was now accomplished.

He lived many years in peace and honor, and died in 1820 at the age of eighty-two. The story of his life is almost as wonderful as a fairy tale; for there are few stranger transformations than that of a little, unknown Quaker boy in the wilds of America into the most distinguished English painter of his day.

—*Nathaniel Hawthorne.*

Helps to Study

1. Read as quickly as you can the part which you would call the "Introduction." Read on and determine what each succeeding part shall be called. By means of this outline, ask your classmates to reproduce—in parts, the story as given by Hawthorne. 2. In what ways did little Benny West show that "Necessity is the Mother of Invention"? 3. Read aloud the paragraphs which indicate the view the early Quakers had of decoration. 4. Where did Benjamin West exhibit his pictures?

Things to Do

1. Read *The Lives of Artists.* 2. If there is an artist, musician, writer, or sculptor in your community arrange to visit with this gifted person. 4. Write up *your* hobby. Have an interest in some *one thing more than another.*

Other Selections: Stephen of Philadelphia, Otis; *Stories of Great Artists,* Horne and Scobey; *How to Study Pictures,* Chafflin.

ANOTHER UNITED STATES

This selection is taken from a geography text. Notice the black face headings. As you read, write down these headings, and under each, the main points about the topic. This is a good plan for *studying* a geography lesson. Try the same plan of work on other selections assigned you for study.

The early days, ranching. Let us see why the Spanish settlers on the banks of the Plata found it easier to make a home there than the English did on the banks of the James, or along the shores of Massachusetts. The pampas of eastern Argentina are treeless and covered with rich grass. These plains, spreading away to the west and northwest for hundreds of miles, are one of the greatest natural pastures in the world. The settler did not have to cut down trees, dig up stumps, pry out stones, or fight with bushes and briers. The winter is frosty, but usually mild. There is no snow cover; animals pasture out all the year. The early settlers brought horses, cattle, and sheep from Spain. The animals ran almost wild on the grassy plains, and increased like mice in a granary.

In those days American meat could not be sold in Europe, so for two hundred years, the Spanish ranch owners killed their cattle and sheep, and sold only the skins, the wool, and the tallow. Horses were kept because the hair from their tails and manes

was sold to make haircloth. In the middle of the nineteenth century an Argentine horse brought a low price, just as a glass of soda water does with us. An unbroken horse was worth $2.50. If he was trained, ready to use, he was worth $5.00. An especially good riding horse was worth $10.00 to the Argentine gaucho, or cowboy. He was a rough fellow, half Indian and half Spaniard, who spent most of his time on horseback.

After a time the people began to make tasajo, which is beef (jerked beef), so salty and dry that, like dried codfish, it will keep in hot climates. Tasajo has been much used in tropic America.

The rise of agriculture. During all this time the people of Buenos Aires imported flour, just as the people of Cuba do to-day. About 1870, people in the Argentine found that they could raise wheat. There was a market for wheat in Europe, so Argentina started on an agricultural career, just as did regions in the central part of North America. Railroads were built across the plain from Buenos Aires and Rosario, just as they were from Kansas City, Omaha, and Minneapolis, and immigrants from Spain and Italy came by thousands to cultivate the new fields.

The land in Argentina is splendid for farming; it is rich, level, and so free from stones that you cannot in miles find one so big as an egg. Plows, reapers, and threshers were sent out from the United States, and the fields of wheat, corn, and flax increased.

Sometimes there are droughts, sometimes too much rain. Sometimes locusts (grasshoppers) fly down in millions from the forests to the northward and eat up the crops. Nevertheless, this has become one of the great agricultural regions of the world. Argentina grows more flax for seed than any other country. Fleets of steamers sail from Europe to the river Plata, and return laden with wheat, corn, meat, and flaxseed. Only a fraction of the land in this region is now under cultivation. The remainder is still in pasture.

The meat industry. Since meat has gone up in price, the people of the Argentine no longer waste their good grass in raising poor cattle. Instead, they raise fine herds of the best English breeds of big, fat sheep and cattle. Alfalfa, the best of all forage plants, grows in Argentina as well as it does in any part of the world; so northeastern Argentina and Uruguay have now become one of the great meat-producing regions of the world. Instead of being boiled down for tallow, the cattle are sent to modern meat-packing houses built and operated by men from Chicago, and owned by European and North American capitalists.

Most of the meat animals go to the packing houses and freezing plants of Buenos Aires, Rosario, and Santa Fe, Argentina, to Paysandu, Uruguay; and even to Pelotas and other places in southern Brazil, for the meat industry has recently sprung up in this part of the temperate agricultural region also.

Argentine meat had begun to come to New York before the World War; but during the war all of the meat was sent to Europe. Since the war we have been importing millions of pounds a year.

A Spanish company recently built meat-freezing plants in Buenos Aires and Santa Fe; cold-storage warehouses in Bilbao and other towns in Spain; and refrigerator ships to carry frozen meat to Europe. There are many such steamship lines from the Plata ports to the ports of northwest Europe.

—From *Human Geography,*
By J. Russel Smith,
Courtesy, The John C. Winston Company, Publishers.

Helps to Study

1. Read the first topic. State the problem as it is given in the text. Discuss the points given. Have you any questions? Any other facts to add? 2. Read the second topic with the question in mind. Is Argentina a desirable place for immigrants? Discuss. 3. Read the third topic. Report on facts, then compare the meat industry of Argentina with that of our United States. Raise good questions. 4. Use your maps and pictures.

Things to Do

1. Collect pictures illustrating the country and the life of the people. 2. Write an imaginary letter from a farm in Argentina telling why you enjoy life there.

Other Selections: Stories of South America, Brooks, *Our American Neighbors,* Coe; *Geographical Readers and Texts.*

THE STORY OF BREAD

How did a loaf of bread happen to be called a "loaf?" Rise quietly as soon as you find out.

Nothing has played a more important part in the history of the world than has the common, everyday loaf of bread. The quantity and quality of a nation's bread determines that nation's place in the scale of civilization and enlightenment. When a people begins to use bread, it ceases to be savage.

Bread has probably had more to do with weaning man from the chase, as well as from war, and leading him to adopt an agricultural life, than has any other one thing. Did you ever stop to think what would happen if the world's supply of bread were suddenly cut off? Of course there are other foods that we eat and enjoy, but bread is the one item on which we most depend.

No one knows when man began eating bread, but it was certainly a very long, long time ago. The old Egyptians left pictures, illustrating their manners and customs, cut so deeply in the stone of tombs and temples that three thousand years have not been able to erase them. These old carvings show us how the grain was garnered, how it was ground, and how the bread was baked. So there is no doubt that bread was in daily use at least thirty centuries ago—even in King "Tut's" time.

Bread can be made of fruits and roots, as well as of the bark of plants. But when we think of bread, it is the bread made of some of the cereals, such as wheat, corn, rye, oats, or barley. Before any of these can be made into bread, the grains must be broken, pounded, or ground. The old word for "pound" was "bray," so that food made from grain that had first been pounded was said to have been brayed; and from this old word we get our word "bread." But as we understand it, food that was simply pounded or brayed was not really bread until it had been mixed with water and made into dough.

The word "dough" is another old-timer, and literally means "to moisten." At first the dough was baked in ashes, and a heavy, indigestible lump was the result. But one day something interrupted, and the dough was not baked at once. Instead, it was set aside and not baked until it had fermented And when some of this delayed dough was mixed with a fresh batch, it was noticed that it had swollen and was filled with thousands of very tiny holes. This mixture made much better eating than had the soggy slabs folks were accustomed to. This puffed-up bread was called "lifian"—raised or lifted up—and from that old word we get the word "loaf."

More of the world's bread is made of wheat than of any other grain, and when the word "bread" is used, it is generally supposed to refer to bread made of wheat.

—*Charles A. David.*

MARY ELLEN'S RADIO

Have you ever longed for a radio set of your own? Perhaps this story may suggest a way to obtain one.

"Ting-a-ling-ling!" rang the telephone. Edna jumped to her feet, but before she could reach the receiver, the telephone rang again.

"Must be something very important," she mused.

"Can I come over to your house to-night?" It was Mary Ellen's voice.

"Yes, of course."

"You have your new radio outfit set up?"

"Oh, how wonderful! How—"

"Yes,—yes, I know. Well, I'll be there, at seven o'clock, in plenty of time for the concert."

Long before seven o'clock came, Mary Ellen's house was filled with all the boys and girls of the neighborhood, eager to see and hear the new radio; and the young hostess was kept busy showing and explaining the wonderful apparatus.

As the hour for the concert approached, the audience became more and more excited. "Now, if you will please be seated," began Mary Ellen, "I will try to 'tune in.' The loud speaker will enable you to hear easily in any part of the house."

"R-ip! r-ip! r-ip!" began the instrument.

"Look out, Ned, she may bite," said Tim Wakeley.

"No danger," laughed Mary Ellen, "when I gain a little more experience in operating the dials, I hope to avoid all unpleasant sounds."

"The concert to-night is given by the Marine Band at Washington. Their code letters are WWZ, and their wave length is 5,950 meters. All this I learned from the instruction book which accompanied my outfit. It is, therefore, only necessary for me to adjust my apparatus to the proper wave length in order to hear whatever messages Washington sends out."

Mary Ellen ceased speaking, and the audience held its breath. It was,—"The Stars and Stripes!" played as only the Marine Band can play it, and heard quite as distinctly as a phonograph could have been heard.

A lady soloist was the next number; and then, miscellaneous numbers to the end of the program. It was a rare treat, and the audience applauded each number roundly.

At the conclusion of the program, Mary Ellen said, "Now I have a request to make of my guests. You are welcome to come here any Friday night to enjoy the radio, but I should like your assistance in advertising my concerts. I intend to give several pay-concerts soon. You see, a friend sent the outfit to father on approval, and I am to pay for it by giving entertainments. It cost sixty dollars, and that's considerable money for a girl to earn in a small town like this, unless—"

"We'll help you, Mary Ellen!" came from all quarters of the room. "We boys will put up the aerial for you and then you can give concerts at the school and the church, and at different houses. We'll help you advertise, too, and pay for it in just no time."

The boys kept their promise. The concerts were given as advertised and were greatly enjoyed by old and young. A small admission was charged, and before many weeks, Mary Ellen had made the last payment on her new radio.

—*Mary Gardner.*

A Radio Club

There were five members in the club and they lived in a city where there was a broadcasting station. No one of them alone could afford a radio set, but their combined savings would buy the necessary apparatus to make one. They found directions in the Boy Scouts' Handbook for making an inexpensive crystal radio set.

The following were the chief items of expense:

Two spools of copper wire	$ .75
Two brass rods	.20
Four nickle posts	.25
One head phone	3.50

How would you find out what the expense was to each member? If each contributed a dollar, how much would be left in the club treasury after paying for the radio set?

Other Selections: A Pigeon Loft, Other Soldiers, Sanford and Owen; *Radio Articles,* Popular Science Monthly, and Boys' Life.

HONEST POVERTY

Is there for honest poverty
  Wha hangs his head, and a' that?
The coward-slave, we pass him by,
  We dare be poor for a' that.
For a' that, and a' that,
  Our toils obscure, and a' that,
The rank is but the guinea's stamp,
  The man's the gowd for a' that.

What though on hamely fare we dine,
  Wear hodden gray, and a' that;
Gie fools their silks, and knaves their wine,
  A man's a man for a' that.
For a' that, and a' that,
  Their tinsel show and a' that;
The honest man, though e'er sae poor,
  Is king o' men for a' that.

* * * *

Then let us pray that come it may,
  As come it will for a' that,
That sense and worth, o'er a' the earth,
  May bear the gree, and a' that.
For a' that, and a' that,
  It's coming yet for a' that,
When man to man, the world o'er,
  Shall brothers be for a' that.

—*Robert Burns.*

ONE DOLLAR

Sometimes a story is told to teach a lesson. Stop reading when you think you have reached that point in this story.

Young Jimmy White pretended he was an automobile. Reaching forward a whirling right hand he cranked himself solemnly, threw in the clutch by lifting a foot and pressing it down gingerly, and straightway pulsated into action, to the accompaniment of many weird sounds calculated to suggest a straining motor.

By the time he reached the corner of Elm Street, he was running at high speed. At the turn into Main Street he slackened a little, taking care not to cut the corner and swinging well to the right, and then proceeded as only a careful driver should. He was, in short, as good an imitation of an automobile as one might wish. But in front of the post office, forgetting that he was supposed to be an automobile, he mounted the curb, and stopped with his nose pressed hard against the plate glass of Mr. Grogan's store window.

The fishing reel was still there. It never had looked more wonderful or more desirable. As Jimmy White stared longingly, his imagination changed the window into the placid bosom of a lake. He saw himself in a boat, standing up and casting. He heard the magic

whir-r-r of line and reel as he flung the weighted hook high and far. He caught the flash of a leaping fish, felt the bending pole, listened once more to the sing of the reel as the captive bolted. Then he braked with his thumb, wound desperately at the easing pull, gave line again, wound again, and in the end dipped his net and lifted the speckled beauty into the boat. Ah, that was the way to fish! No more watching a bobbing cork for him!

The price of the reel shown on the tag was one dollar. Jimmy White turned away. "Might as well be ten," he said, with a forlorn little wave of his hand. "I haven't a dollar, and I haven't any way of earning a dollar. Only—only"—He went back to the window for a final look. "Isn't she a beauty!" he breathed.

The automobile game had lost its zest. He shambled down Main Street without seeing or hearing anything at all. A runaway dog was almost upon him before he was aware of its presence. It was a black dog, with one white ear and a stub of a white tail, and it was dragging a long rope.

"Why, it's Prince!" he said wonderingly. "It's Dr. Clarke's dog that has been lost since Tuesday." He raised his voice. "Hi, Prince! Nice doggie! Come here, Prince! Come here, sir!"

The animal recognized the friendly voice. Prince had met grievous disappointments in the last two days,as the broken rope attested, but he had not lost his trusting nature nor his faith in old friends. He

wagged his stump of a tail and allowed Jimmy to come close.

"Talk about luck!" exulted Jimmy White. Dr. Clarke, who regarded the dog almost as a member of the family, would surely be willing to reward his finder.

He stopped to debate the matter. Perhaps the best way was to take Prince to his own home and shut him up in the barn. If he did that, he could go to Dr. Clarke and say he believed he knew where to find the lost dog.

"No-o." Jimmy shook his head. "No, that wouldn't be quite right, I guess. Anyhow, Dr. Clarke is square. I'll take the dog to him now and he'll give me a dollar. Why shouldn't he? I deserve it. And it's worth that much to get Prince back."

So he whistled to Prince, jerking a little on the rope, and boy and dog began their trip. Dr. Clarke lived far out on Elm Street. Prince knew the way; he had been running toward home when he came upon Jimmy.

Four blocks down Elm Street, after the turn from Main, the pair came to a little bridge over a creek. Down below, on the creek bank, Sam Wolters was fishing for suckers. He was doing it with an ordinary pole and line. Jimmy guessed the outfit was home-made, because Sam's folks were very poor. The boy on the bridge sniffed contemptuously. That was no way to fish.

He was about to turn away, when the cork began to jiggle. Now Jimmy was far too enthusiastic a fisherman to want to miss what followed; he stiffened expectantly. The cork teetered. It sank for an instant; then popped a full inch above the water. This was too much for Prince. With another yelp, he dashed forward and Jimmy felt himself suddenly roped. He reached out clawing hands for a hold, but there was no railing to grasp. In another moment he was plunging from the bridge to the water below.

The middle of the creek was deep. Jimmy hit the surface with a splash, gasped, swallowed a great mouthful of water, and sank like a rock. At best he was an indifferent swimmer, and he found himself all at once horribly frightened.

He fought a frantic way to the air. Once above water, he struggled to paddle ashore. But something —his clothes and shoes, he guessed—dragged and sucked him under a second time.

When he came up again, he felt an arm on the shoulder of his coat. "Quit splashing!" said a voice in his ear. It was Sam Wolters who had come to his assistance, and obediently he ceased struggling. Turning on his side, Sam struck out for shore with long, clean sweeps of his right arm; and in no time at all, and almost in no distance at all, Jimmy felt himself set on his feet, with the water only up to his waist. He waded to the bank without speaking.

As soon as he was safe on land and had somewhat

recovered his composure, he said, "Sam, I haven't any money now, but I expect to get a dollar pretty soon and I'll give it to you as a reward."

"Reward!" Sam laughed heartily. "Say, do you think I pulled you out for money? I did it because there wasn't anything else to do."

"But it was like working for me," Jimmy argued, "and I ought to pay you what the job was worth. Don't you see that?"

"Oh, it's all right to work for money," admitted Sam. "If a man hires you to work for him, why, of course, he ought to pay you. But when a fellow's in trouble and you can help him, without its costing you anything, you have no right to expect pay." He paused reflectively. "Say, if everybody deserved a reward for everything he did for somebody else, I guess I'd be owing a lot of money, because people have done more for me than I ever did for them."

"Oh!" said Jimmy. He hadn't thought of it that way.

"Most of the things you do for folks are—are courtesies, or—or favors," Sam went on. "If somebody says, 'Please pass the butter,' and you pass it, you don't want a reward, do you? And if somebody drops his handkerchief and you pick it up and give it back, you don't want a reward, do you? Why, if you expected pay for everything you did for anybody else, you'd have to keep people from coming near you, for fear you'd owe them more than you had. You—you'd have to quit having friends.

Shucks! Any time you feel like falling into the creek, White, I'll pull you out for nothing. Got to go?"

"Yes," said Jimmy quietly, too quietly to be natural, "yes, I have to see a man."

Dr. Clarke was at home. He was sitting on the front porch, and saw Jimmy and the dog enter the yard.

"Hello!" he greeted. "So you're back again, Prince. Yes, and I'm just as glad to see you as you are to see me, old friend." For a minute or two the man and his dog frolicked happily. Then the doctor turned to Jimmy. "So you found him and brought him back, did you?"

"Yes, sir," answered Jimmy, as if it were a lesson in memory, "I found him and brought him back."

"Fine! It's worth a good deal to see Prince again." The physician thrust a hand suggestively into his pocket. "I suppose I owe you something for your trouble?"

"Why, no, sir," said Jimmy, and all at once it was very clear to him; "I'm glad I could help you a little, Dr. Clarke, just as I'd want you to help me a little, if I needed it. No, sir; of course you don't owe me anything."

The doctor smiled. It was such a big, kindly, encouraging sort of smile that, before Jimmy realized it, he was telling all about finding Prince and about falling into the creek and about offering a reward to Sam Wolters and about the reel in Grogan's window. Every once in a while the man nodded understand-

ingly, but he did not interrupt; and when the story was done, he held out his hand and took the boy's hand in his.

"Jimmy White," he said, "I like you, and I'm glad you've learned the lesson about rewards. Mean things, rewards are. If all the world were honest and friendly, you'd never hear of them." He leaned forward and abruptly changed the subject. "Do you like cherries, Jimmy?"

Later, when they were in the back yard, and Dr. Clarke had pointed out the cherry trees, heavy with fruit, and told Jimmy to help himself, the man broached another matter.

"I want to hire two reliable boys to pick those cherries for me," he said. "It would take about a day, I think, and I could afford to pay each boy a dollar. Now I wonder if you and Sam Wolters wouldn't like the job?"

Jimmy gasped. It was like some wonderful dream coming true. "Yes, sir, if you please, sir," he said eagerly. Afterwards, around the corner, Jimmy White turned himself into an automobile, cranked, threw in the clutch, and shifted into high speed.

At the bridge over the creek he stopped long enough to tell the delighted fisherman about the job. And then, just as people did in stories, he said to himself, "Grogan's hardware store, James!" and speeded down town for another look at the reel.

—Leslie W. Quirk

THE OLD SCOUT

From the description, make a drawing of The Old Scout as he appears to you. The girls of the class might make the articles of dress and the boys the weapons for a class play.

"He stands leaning on his long straight rifle, looking into the fire. He is six feet in his moccasins and of a build that suggests the idea of strength and Saxon ancestry. His arms are like young oaks; and his hand, grasping the muzzle of his gun, is large, fleshless, and muscular.

"His cheek is broad and firm. It is partially covered by a bushy whisker that meets over the chin and fringes all around the lips; it is neither fair nor dark, but a dull brown color, lighter around the mouth, where it has been bleached by the sun.

"The eyes are blue, or bluish-gray, small and slightly crowed at the corners; they are well set and seldom wander. They seem to look into you rather than at you. The hair is brown and the complexion, although dark as that of a mulatto, is only so from tan; it was once fair—a blonde. The whole expression is bold, but good humored and generous

"The dress is of home manufacture—that of his home—from that prairie and wild mountain, where the material has been bought by a bullet from the rifle. It is the work of his own hands and consists

of a hunting shirt of dressed deerskin, smoked to the softness of gloves, leggins reaching to the waist, and moccasins of the same material, the latter soled with the raw hide of a buffalo. The shirt is belted at the waist, but open at the breast and throat, where it falls back into a graceful cape just covering the shoulders. Underneath is seen the undershirt of finer material, of the dressed skin of the antelope.

"On his head is a raccoon cap with the face of the animal looking to the front, while the barred tail of the coon hangs like a plume dropping down to his left shoulder. His accoutrements are a bullet pouch, made from the undressed skin of the mountain cat, and a huge, crescent-shaped horn upon which he has carved many a strange souvenir. His arms consist of a long knife, a bowie, and a heavy pistol, carefully secured by a holster to the leather belt around his waist. Add to this a rifle five feet long, and so straight that the line of the barrel scarcely deflects from that of the butt.

"But little attention has been paid to ornament in either dress, arms, or equipment, and yet there is a gracefulness in the hang of his tunic-like shirt, and a stylishness about the fringing of the cape and leggins, and a jauntiness in the set of the coonskin cap which show the wearer to be not altogether unmindful of his personal appearance. A small pouch, or case, neatly embroidered with porcupine quills, hangs upon his breast."

—*From Boys' Life.*

SINBAD

SINBAD'S SECOND VOYAGE

Here is a good, old tale. Read it through rapidly. Make notes, as you read, of the important thought in each paragraph, or where conversation occurs, and of the thought in several paragraphs. When you have read the whole story and made your list, raise your hand, and your teacher will make a record of the time it has taken you. Several of the lists can be placed on the blackboard and the class can see whether those who worked most rapidly have made the best lists.

I planned after the first voyage to spend the rest of my days at Bagdad. But I soon grew weary of an idle life and put to sea a second time with merchants of known honesty.

We embarked on a good ship, and after commending ourselves to God, set sail. We traded from island to island and exchanged wares with great profit. One day we landed on an island covered with several sorts of fruit trees, but we could see neither man nor animal. We walked in the meadows, and along the streams that watered them.

While some of the company amused themselves with gathering flowers and others fruits, I took my wine and provisions and sat down near a stream between high trees which formed a thick shade. I made a good meal, and afterwards fell asleep. I cannot tell how long I slept, but when I awoke the ship was gone.

In this sad condition I was ready to die with grief. I cried out in agony, beat my head and breast, and threw myself upon the ground, where I lay for some time in despair. I blamed myself a hundred times for not being content with the profits of my first voyage, which might have lasted me all my life. But all this was in vain; my repentance came too late.

At last I resigned myself to the will of God. Not knowing what to do, I climbed up to the top of a lofty tree from which I looked about on all sides to see if I could discover anything to give me hope. When I gazed toward the sea, I could see nothing but sky and water; but looking over the land I beheld something white; and coming down I took what provision I had left and went toward it, the distance being so great that I could not distinguish what it was.

As I approached, I thought it to be a white dome of tremendous height and extent; and when I came up to it, I touched it and found it to be very smooth. I went round to see if it were open on any side, but saw it was not, and that there was no climbing up to the top, as it was too smooth. It was at least fifty paces around.

By this time the sun was about to set, and all of a sudden the sky became as dark as if it had been covered with a thick cloud. I was much astonished at this sudden darkness, and still more so when I found it was caused by a bird of monstrous size that came flying toward me.

I remembered that in my early youth I had often heard mariners speak of a miraculous bird, called the roc, and I was now sure that the great dome which I so much admired must be its egg. And, in fact, the bird alighted and sat over the egg. As I perceived her coming, I crept close to the egg so that I had before me one of the legs of the bird, which was as big as the trunk of a tree. I tied myself strongly to it with my turban, in hopes that the roc next morning would carry me away with her out of this desert island.

After having passed the night in this condition, the bird flew away as soon as it was daylight and carried me so high that I could not discern the earth; she afterwards descended with so much rapidity that I lost my senses. But when I found myself on the ground, I speedily untied the knot, and had scarcely done so when the roc, having taken up a serpent of a monstrous length in her bill, flew away and returned no more.

I now found myself in a valley, walled in by high mountains, with no possible avenue of escape. I spent the day walking about and discovered I was walking on diamonds. At last I sat down and fell asleep. But I had scarcely shut my eyes when I was awakened by something that fell beside me with a great noise. This was a large piece of raw meat; and at the same time I saw several other pieces fall down from the rocks in different places. But where they came from, I knew not.

I had always regarded as fabulous what I had heard sailors and others relate of the valley of diamonds and of the means employed by merchants to obtain jewels from thence; but now I found that they had stated nothing but the truth. For the fact is the merchants come to the upper rim of the valley when the eagles have young ones, and throw great joints of meat into the valley; the diamonds stick to them and the eagles pounce upon those pieces of meat and carry them to their nest upon the high rocks to feed their young. Then the merchants drive off the eagles by their shouts and take away the diamonds which stick to the meat.

I perceived in this device the means of my deliverance. Having collected the largest diamonds I could find and put them in my leather bag, I took the largest piece of meat and tied it close around me with my turban and then laid myself upon the ground with my face downward.

I had scarcely placed myself in this position when one of the eagles having taken me up with the piece of meat to which I was fastened, carried me to his nest on the top of the mountain.

The merchants immediately began their shouting to frighten the eagles away; and when they had quit their prey, one of the merchants came to the nest where I was. He was much alarmed when he saw me, and the other merchants, crowding about us, were more amazed when I told them my story and showed them my diamonds.

I spent the night with the merchants, to whom I related my story a second time for the satisfaction of those who had not heard it. I could not restrain my joy when I found myself once more delivered from the dangers I have narrated.

—From the *Arabian Nights.*

Helps to Study

1. If you are planning to take the part of a story-teller you will want to get your story clearly in mind. An outline will help you. Read the story through quickly. Decide upon the main points. Name them, and fill in details. 2. To help make your story interesting to your audience, you will want to do three things: a. Use good language. Choose phrases you will use, such as: exchanged commodities, could not distinguish, etc. b. Use illustrations. Which paragraphs give good descriptions? Make your sketches. c. Dramatize parts as you talk. How would you represent the feelings of Sinbad when he found himself left behind?

3. Find word meanings: exchanged *commodities*, might have *sufficed*, *prodigious* height, etc.

Things to Do

1. Make an Arab costume. A turban and a sash will be suggestive. 2. Compare this with Robinson Crusoe's experience. Which, in your opinion, gives a true experience, and which is just "spinning a yarn?" Can you tell *why* you think so? 3. What fun to dress up like an Arab and relate Sinbad's story to another class! Try it.

Other Selections: Arabian Nights, Peter Pan, Barrie; *Adventures of Ulysses,* Cook; *Admiral's Caravan,* Carryll; *Gulliver's Travels,* Swift; *Fanciful Tales,* Stockton.

THE LAND OF GOLD

This story stirs the imagination. It reads like fiction, but "truth is oft times stranger than fiction," and the lure for gold led men to do cruel deeds. Get the facts, the picture scenes, and plan to tell the story as one of the characters would relate it. Tell it at home, or before some other class in school.

You have been told elsewhere that practically all of South America was taken from the native Indians and settled by the Spaniards. One of these Spanish colonies was in Panama, and the governor was Captain Francisco Pizarro.

By chance one day, he learned of a wonderful country, far to the south, called the Land of Gold. It is now called Peru. So Pizarro decided to visit the unknown country and conquer it, if possible, in the name of the King of Spain.

After two unsuccessful attempts to reach Peru, he decided to return to Spain and ask the King for more men and ships. When he arrived home, he tried to impress every one with his self-importance. Dressed in a gaudy jacket, wide hat, and a shiny breastplate, and carrying a long sword, he swaggered about the streets as though he had conquered the world. He presented the King with many presents from the new world, including three llamas and other animals of which the Spaniards had never seen or heard. Then

he filled the ears of the King with wonderful tales of the riches of the Land of Gold and explained what enormous wealth would come to his kingdom, if the country were subdued.

The adventure appealed to the King's vanity, and he straightway ordered ships and men to be furnished to Captain Pizarro, as many as he should need.

It never occurred to these gentlemen that the land and gold and silver which they proposed to take belonged through centuries of possession to the Indians; or, if it did, they thought that a heathen race was not entitled to keep what stronger men could take by might. "Might makes right," they thought.

When Pizarro with his small army of invaders landed on the coast of Peru, he learned that the Inca, as the ruler was called, was encamped with an army between Cuzco (Kooz'co) the capital city, and the coast. The crafty Spaniard, therefore, began his march inland rather cautiously. He soon discovered, however, that he was not in a hostile country, for all along the way he was welcomed by the native Indians. They provided his men with food and gave them many presents of gold, emeralds, dried fruits, peppers, and perfumes. At first, Pizarro acted the part of a guest, but secretly he was devising a plan to capture the Inca and destroy his army.

One day on their march, the invaders came to a town that was built around an open square, or market place. Pizarro took possession of the town and quartered his men and horses in the buildings which

faced upon the square. Then he sent a messenger to the Inca inviting him to a great feast which he proposed to give in the public square. The Inca came, together with sixty thousand of his men.

When the Indians, who were wholly unarmed and had come to participate in a friendly feast, had crowded into the square, Pizarro gave the signal to his men, who were hidden in the adjoining buildings, to open fire. The poor Indians, trapped and unarmed, could offer feeble resistance. A few thousand escaped. The rest were all massacred, and the Inca himself taken prisoner.

Carrying the Inca with them as a hostage, to ward off any attack, Pizarro marched on to Cuzco. It was like finding Aladdin's cave. The riches of this capital city amazed the conquerors and surpassed their wildest dreams.

"There was the Inca's palace, a low stone building, rough on the outside, but inside, the walls were hung with gorgeous cloth and plates of precious metal which took the place of pictures. The Inca's throne was of solid gold. Statues of gold and silver stood about the halls, and dishes made of gold and set with precious gems adorned the tables. In the garden among the real flowers were imitation flowers made of gold and silver. In the courtyard was a golden bath into which water flowed through silver pipes.

"But the real wonder of the city was the Temple of the Sun. On the western wall of the temple was

an enormous disk of polished gold with a human face carved on it to represent the sun. Glittering rays of the same metal reached up to the ceiling and down to the floor. From the brilliant gems on the face of the image darted beams of rainbow-colored light. The other walls were covered with golden ornaments, and everything used in the worship of the idol was made of gold."

What do you suppose the Spaniards did with these precious things? They robbed the temple and palace of their gold and silver, melted them into bars, and carried their spoil with them when they departed. Nothing was left for the owners.

Near the coast Pizarro founded a new city, named Lima. Thither came Spanish adventurers in great numbers to rob the mines from which the Indians got their silver and gold. Soon there were several Spanish cities in Peru and Spain's hold on the country was secure. The Indians never got it back, and Peru to-day is governed by the descendants of those Spanish adventurers.

What became of the Inca? Pizarro had him put to death. What became of Pizarro? He was murdered in his own house by men whom he had wronged.

—*H. J. Alva*

THINGS TO DO

1. Make a bit of costume to wear when you impersonate these characters. 2. Collect pictures, historical and geographical, illustrating "The Land of Gold"—past and present.

Other Selections: The Fair God, WALLACE; *Any Good History Text; Our Ancestors in Europe,* HALL; *Arabian Nights.*

SIXTY-TWO LITTLE TADPOLES

Read this selection as quickly as you can to help you prepare to give an illustrated lecture to your class. Make pencil sketches to assist you in your blackboard work.

Look at this mass of white jelly floating in a bowl of pond water. It is clear and delicate, formed of little globes the size of peas, held together in one rounded mass. In each globe is a black dot.

I have it all in my room, and I watch it every day. Before a week passes, the black dots have lengthened into little fishy bodies, each lying curled in his globe of jelly, for these globes are eggs, and these dots are soon to be little living animals.

Presently they begin to jerk backwards and forwards, and perform such simple gymnastics as the small accommodations of the egg will allow; and at last one morning, to my delight, I find two or three of the little things free from the egg, and swimming like so many tiny fishes in my bowl of water. How fast they come out now; five this morning, but twenty to-night, and thrice as many to-morrow! The next day

I conclude that the remaining eggs will not hatch, for they still show only dull, dead-looking dots; so reluctantly I throw them away, wash out my bowl, and fill it anew with *pond water*. But, before doing this, I had to catch all my little family, and put them safely into a tumbler to remain during their house cleaning. This was hard work; but I accomplished it with the help of a teaspoon, and soon restored them to a fresh, clean home.

It would be difficult to tell you all their history, for never did little things grow faster, or change more wonderfully, than they.

One morning I found them all arranged round the sides of the bowl in regular military ranks, as straight and stiff as a company on dress parade. It was then that I counted them, and discovered that there were just sixty-two.

You would think, at first sight, that these sixty-two brothers and sisters were all exactly alike; but, after watching them awhile, you see that one begins to distinguish himself as stronger and more advanced than any of the others—the captain, perhaps, of the military company. Soon he sports a pair of little feathery gills on each side of his head, as a young officer might sport his mustache; but these gills, unlike the mustache, are for use as well as for ornament, and serve him as breathing tubes.

How the little fellow grows! no longer a slim little fish, but quite a portly tadpole with rounded body and long tail, but still with no expression in his

blunt-nosed face, and only two black-looking pits where the eyes are to grow.

The others are not slow to follow their captain's example. Day after day some new little fellow shows his gills, and begins to swim by paddling with his tail in a very stylish manner.

And now a sad thing happens to my family of sixty-two—something which would never have happened, had I left the eggs at home in their own pond; for there, there are plenty of tiny water-plants, whose little leaves and stems serve for many a delicious meal to young tadpoles. I did not feed them, not knowing what to give them, and half imagining that they could live very well upon water only; and so it happened that one morning, when I was taking them out with a spoon as usual, to give them fresh water, I counted only fifty. Where were the others?

At the bottom of the bowl lay a dozen little tails, and I was forced to believe that the stronger tadpoles had taken their weaker brothers for supper.

I didn't like to have my family broken up in this way, and yet I didn't at that time know what to give them; so the painful proceeding was not checked, and day after day my strongest tadpoles grew even stronger, and the tails of the weaker lay at the bottom of the bowl.

The captain throve finely, had clear, bright eyes, lost his feathery gills, and showed through his thin skin that he had a set of excellent legs folded up inside. At last, one day, he kicked out the two hind

ones, and after that was never tired of displaying his new swimming powers. The fore legs followed in due time; and when all this was done, the tail, which he no longer needed to steer with, dropped off, and my largest tadpole became a little frog.

His brothers and sisters, such of them as were left (for, I grieve to say, he had required a great many hearty meals to enable him to reach the frog state), followed his illustrious example as soon as they were able. And then, of course, my little bowl of water was no suitable home for them; so away they went out into the grass, among the shallow pools, and into the swamps. I never knew exactly where; and I am afraid that, should I meet even my progressive little captain again, I should hardly recognize him, so grown and altered he would be. He no longer devours his brothers, but, with a tongue as long as his body, seizes slugs and insects, and swallows them whole.

In the winter he sleeps with his brothers and sisters, with the bottom of some pond or marsh for a bed, where they all pack themselves away, hundreds together, laid so closely that you can't distinguish one from another.

But early in the spring, you may hear their loud croaking; and when the March sun has thawed the ice from the ponds, the mother frogs are all very busy with their eggs, which they leave in the shallow water—round jelly-like masses, like the one I told you of at the beginning of this story, made up of hundreds and hundreds of eggs. For the frog mother

hopes for a large family of children, and she knows, by sad experience that no sooner are they born than the fishes snap them up by the dozen; and even after they have found their legs, and begin to feel old, and competent to take care of themselves, the snakes and the weasels will not hesitate to take two or three for breakfast, if they come in the way. So you see the mother frog has good reason for laying so many eggs.

The toads, too, who, by the way, are cousins to the frogs, come down in April to lay their eggs also in the water—long necklaces of a double row of fine transparent eggs, each one showing its black dot, which is to grow into a tadpole, and swim about with its cousins, the frog tadpoles; while they all look so much alike that I fancy their own mothers do not know them apart.

I once picked up a handful of them, and took them home. One grew up to be a charming little tree toad, while some of his companions gave good promise, by their big awkward forms, of growing by and by into great bullfrogs.

—*Annabelle Buckley.*

Courtesy, Lothrop, Lee, and Shepard.

HELPS TO STUDY

1. Prepare at least five good questions to ask the "Lecturer" —something you really wish to know. 2. Find a tree toad or frog near your home and make a record of your observations. You may want to use such headings as these:

Coloration Habits Food Home Friends Enemies

Other Selections: Latona and the Frogs, Greek Myths, KUPFER; *The Mystery of the Tadpole,* LEWIS.

WONDERS OF THE DEEP

One likes to read legendary tales of Neptune and his kingdom, of Undine and her sister nymphs, for in this manner, the people of long ago tried to explain the wonders of the sea. The studies of scientists have replaced these "guesses," or "guests of the imagination," with facts that are stranger than fiction. Here are some of them. Read carefully and as quickly as you can, in ten minutes, or less, and plan for a "Fact Racing Game."

I

Not very many years ago, it was supposed that life was altogether absent in the deeper parts of the sea. Now we know that this is not the case. Expeditions of scientific men have been sent out by different countries to dredge in very deep water, and their discoveries have clearly proved that fishes, mollusks, crustaceans, and even the soft-bodied sea anemones are capable of living more than three miles below the surface of the ocean.

To those profound depths no ray of sunlight can ever penetrate; and, though many of the deep-sea creatures possess eyes, we might think that they would never have an opportunity of using them. For to see in absolute darkness is impossible. We often say, it is true, that cats can see in the dark; but the fact is, that even on the darkest night there is always some little light, while a cat's eyes are

made in such a way that they can take in many more rays of light than our eyes. The animal, consequently, is able to see clearly when we ourselves can scarcely see at all. But at the bottom of the sea the darkness is almost complete, so that to the creatures of the deep, eyes would seem useless.

But that is not all. The bodies of these animals must be able to resist an almost inconceivable pressure. We ourselves, living at the bottom of the ocean of air, have to endure an atmospheric pressure of fifteen pounds to the square inch; that is to say, the weight of the air above us is so great, that it presses upon every part of our bodies with exactly that degree of force.

If, however, we dive under water, we have to bear the pressure of the water in addition to this; and as water is very much heavier than air, this pressure soon becomes so great that even a trained diver cannot descend to a depth of more than fifty fathoms.

Now, fishes and other animals have been found at a depth of over three miles. This means that they have to endure, upon every square inch of their bodies, a pressure of rather more than two tons and a half, or five-and-twenty times the force required to drive a railway train at a high rate of speed. It would seem impossible that any living creature could resist a pressure so tremendous.

Nevertheless, the inhabitants of the deep-sea are somewhat numerous. More than twenty kinds

of fishes alone have been found at a depth of more than two thousand fathoms; and, as only a very small portion of the ocean-bed has as yet been explored, we may feel quite certain that a great many more still remain to be discovered.

Strange to say, although these fishes live at depths so profound, they are not entirely destitute of light. The sun's rays cannot reach them, it is true; but, on the other hand, they are very frequently themselves luminous. In some cases their whole bodies glow with phosphorescent light, which seems to issue from the slime with which the skin is covered; in others the light proceeds from a double row of curious eye-like organs, which run along the sides from the head almost to the tail. Thus these animals are independent of sunlight. They are their own light givers. They dwell in the midst of absolute darkness, and yet are always able to see.

One of these luminous fishes uses its light for a very remarkable purpose. It is a creature of prey, feeding entirely upon other fishes; and its appetite is so voracious that it always appears to be hungry.

How successful this remarkable fish is in its angling, may be judged from the number of victims sometimes captured by its near relation, the fishing frog, which is found not uncommonly in shallow water. In the stomach of one of these fishes which was killed and opened immediately after capture, were found no fewer than seventy-five herrings,

while another had swallowed twenty-five flounders.

There is an eel of the deep-sea, however, which can dispose of even larger meals than these, for it has actually been known to swallow fishes of greater size than itself. This may seem impossible: the fact is that its jaws, like those of a python, can be separated to a surprising extent, while the flesh of its throat and body is exceedingly elastic. In one of these fishes, when brought to the surface, was found the twisted-up body of another fish three times as long as itself; from another were taken victims amounting to nearly five times its own weight; while a third had swallowed a captive so large that it had actually dislocated its own fins in doing so!

II

But how do these deep-sea fishes contrive to resist the enormous pressure which throughout their lives they have to sustain?

That is not an easy question to answer. All we can say is that the whole framework of their bodies is so flimsy, that it could not perform its functions without a great weight of water to hold it, as it were, together, and that the gases contained in their swimming-bladders, and dissolved in their blood, neutralize the pressure to some extent, and enable them to live at depths to which otherwise they could never descend.

Owing to this fact, it is very difficult indeed to obtain specimens of these fishes in perfect condition.

As soon as they are raised from the bottom, the pressure begins to decrease, and the gases in their bodies to expand; and long before they reach the surface, their internal organs are generally forced out of their mouths, and their eyes from the sockets, while their bodies are so flattened and distorted that their true shape can only be guessed at.

Sometimes, too, a most curious accident befalls one of these creatures. Eagerly pursuing a victim, perhaps, it incautiously rises to too great a distance from the sea-bottom. Its swimming-bladder of course expands as the pressure upon it is reduced, and renders the fish so much lighter in proportion to its size that, when it attempts to sink to the bottom, it finds itself unable to do so. Still rising, the pressure is yet further reduced, till at last the body of the hapless creature literally bursts, and floats upward mangled and shapeless, to the surface of the sea. These fishes, in fact, have constantly to be on their guard against the danger, not of falling downward, but of tumbling upward!

But other remarkable creatures besides fishes are found in the depths of the sea. There is a crab, for instance, which carries its young about in an odd little pouch on the lower surface of the body, just as the kangaroo does. Thus, while they are still small and unable to defend themselves, the little creatures are protected from their many enemies. Another crab has legs nearly four times as long as its body, while the body and limbs of a third are so

densely clothed with long, sharp spines, that it can only be handled with the very greatest care. Most of these deep-sea crabs are entirely blind, the curious eyestalks, on which the organs of vision are usually set, being absent.

Then there are some very remarkable creatures known as sea spiders, which combine the characteristics of insects, spiders, and crabs. Their legs are very long indeed, and their bodies are very small, while the mouth is placed at the top of a long beak which runs out from the front of the head. But the strangest feature of these animals is that a branch of the stomach runs down each of the legs, almost as far as the claw at the tip!

Finally, there are stalked crinoids, or sea lilies, which may be briefly described as starfishes growing at the end of long stalks. These stalks are made up of an astonishing number of tiny joints—as many as a hundred fifty thousand having been found in the stem of a single sea lily—while the base is fastened down to the surface of a rock by a number of spreading rootlets.

In days of old these stalked crinoids were extremely plentiful; marble, for instance, often consists of little else than the joints of their stems, and the rocks in many parts of the world are full of their fossil remains. But until the bed of the deep-sea was explored, it was supposed that they had become almost entirely extinct. Now, however, we know that the floor of the ocean is in many places densely

clothed with them, just as it must have been almost everywhere thousands of years ago.

Such are some of the wonders of the deep sea. Many more there are which space will not allow me to describe, or even to mention. And we can have little doubt that when the great abysses of the ocean have been more thoroughly explored, our knowledge of its inmates will be very largely increased, and that even stranger creatures will be found to exist than any which have yet been discovered.

—*Theodore Wood.*

Helps to Study

1. Glean a fact from each paragraph and state it as clearly and concisely as you can.

Vocabulary. Fill in the blanks with other words than those in the book: ———— pressure, ———— an atmospheric pressure, could———— a pressure so ————, at depths so ————, ———— fishes, appetite so ————, extremely ———— creatures.

Things to Do

Arrange two competing teams, who choose a number to represent them in a written contest at the blackboard. Two members only may compete, or any number of couples, as is desired. The team having stated the greatest number of facts within a given time wins.

Other Selections: Oystering; How We Are Fed, Chamberlain; *Fisheries,* Any Encyclopaedia; *Animals of Pond and Stream,* A Source Book, Downing.

AN INCH OF RAIN

When it rains "cats and dogs," or "pitchforks" for a length of time, it is likely that the weather man will announce that "the precipitation was one inch."

And just what does that mean? What is an inch of rain? The weather man has instruments for taking an accurate measurement of the rainfall, just as he does the snowfall, the sunshine, and the velocity of the wind, to say nothing of the changes of temperature.

An acre is a piece of land of 6,272,640 square inches; and if there were an inch of water on it, that would amount to 6,272,640 cubic inches. There are 227 cubic inches in a gallon, so that 6,272,640 cubic inches equals 22,000 gallons, and that much water would weigh 220,000 pounds, or 110 tons.

It figures out, then, that an inch of rainfall means 110 tons of water per acre. It is a good thing the tonnage is scattered over so much territory.

If an inch of rain fell at Phoenix, Arizona, in one storm, it would give the people something to talk about for a long time, for in an entire year the rainfall is less than eight inches. On the other hand, people at New Orleans would not give it more than a passing thought, for the average rainfall there is nearly five inches a month.

—Editorial.

THE CONTEST FOR THE BUGLE

Robin Hood, a bold outlaw and a leader of a band of followers, led a merry life in the greenwood in the time of King Richard of England. These skilled hunters sought to right the wrongs of the common people and their adventures are sung in ballads and told in story. Sir Walter Scott tells one of these in *Ivanhoe*. Here is a part of it. Read it quickly to see whether it is a good selection for dramatization. If so decided, you should determine the setting, how many and what characters are needed, the number of scenes, and what action takes place, reading again, if necessary, to find out. List character parts on the board. Read these again to decide which members of the class are best suited to the parts. *Dramatize* in the open air.

To the best archer a prize was to be awarded, being a bugle horn, mounted with silver, and a silken baldric. More than thirty yeomen at first presented themselves as competitors.

Prince John stepped from his royal seat to view more nearly the persons of these chosen yeomen, several of whom wore the royal livery. Having satisfied his curiosity, he looked for the object of his resentment, whom he observed standing on the same spot, and with the same calm countenance which he had shown on the preceding day.

"Fellow," said Prince John, "I guessed by thy insolent babble thou wert no true lover of the long-

bow, and I see thou darest not adventure thy skill among such merrymen as stand yonder."

"Under favor, sir," replied the yeoman, "I have another reason for refraining to shoot, besides the fearing defeat and disgrace."

"What is thy other reason?" said Prince John.

"Because," replied the woodsman, "I know not if these yeomen and I are used to shoot at the same marks; and because, moreover, I know not how your Grace might relish the winning of a third prize by one who has fallen under your displeasure."

Prince John colored as he put the question, "What is thy name, yeoman?"

"Locksley," answered the yeoman.

"Then, Locksley," said Prince John, "thou shalt shoot in thy turn, when these yeomen have displayed their skill. If thou carriest the prize, I will

add to it twenty nobles; if thou losest it, thou shalt be stripped and scourged out of the lists with bowstrings, for a wordy and insolent braggart."

"And how if I refuse to shoot on such a wager?" said the yeoman. "Your Grace's power, supported as it is by so many men at arms, may indeed easily strip and scourge me, but cannot compel me to bend or to draw my bow."

"If thou refusest my fair proffer," said the Prince, "the provost of the lists shall cut thy bowstring, break thy bow and arrows, and expel thee from the presence as a faint-hearted craven."

"This is no fair chance you put on me, proud Prince," said the yeoman, "to compel me to peril myself against the best archers of Leicester and Staffordshire, under the penalty of infamy if they should overshoot me. Nevertheless, I will obey."

A target was placed at the upper end of the southern avenue which led to the lists. The archers, having previously determined by lot their order were to shoot each three shafts in succession.

One by one the archers, stepping forward, delivered their shafts yeomanlike and bravely. Of twenty-four arrows, shot in succession, ten were fixed in the target, and the others ranged so near it, that, considering the distance of the mark, it was accounted good archery. Of the ten shafts which hit the target, two within the inner ring were shot by Hubert, a forester, who was accordingly pronounced victorious.

"Now, Locksley," said Prince John to the bold yeoman, with a bitter smile, "wilt thou try conclusions with Hubert, or wilt thou yield up bow, baldric, and quiver to the provost of the sports?"

"Since it be no better," said Locksley, "I am content to try my fortune, on condition that when I have shot two shafts at yonder mark of Hubert's, he shall be bound to shoot one at that which I shall propose."

"That is but fair," answered Prince John, "and it shall not be refused thee. If thou dost beat this braggart, Hubert, I will fill the bugle with silver pennies for thee."

"A man can but do his best," answered Hubert; "but my grandsire drew a good longbow at Hastings, and I trust not to dishonor his memory in any contest at archery."

The former target was now removed, and a fresh one of the same size placed in its room. Hubert, who, as victor in the first trial of skill, had the right to shoot first, took his aim with great deliberation, long measuring the distance with his eye, while he held in his hand his bended bow with the arrow placed on the string.

At length he made a step forward, and raising the bow at the full stretch of his left arm, till the center or grasping place was nigh level with his face, he drew his bowstring to his ear. The arrow whistled through the air and lighted within the inner ring of the target, but not exactly in the center.

"You have not allowed for the wind, Hubert, "said his opponent, bending his bow, "or that had been a better shot."

So saying, and without showing the least anxiety to pause upon his aim, Locksley stepped to the appointed station, and shot his arrow as carelessly in appearance as if he had not even looked at the mark. Yet it alighted in the target two inches nearer to the white center than that of Hubert.

Hubert resumed his place, and shot so successfully that his arrow alighted in the very center of the target.

"A Hubert! A Hubert!" shouted the populace, more interested in a known person than in a stranger.

"Thou canst not mend that shot, Locksley," said the Prince, with an insulting smile.

"I will notch his shaft for him," replied Locksley.

And letting his arrow fly with a little more precaution than before, it lighted right upon that of his competitor, which it split to shivers. The people who stood around were so astonished at his wonderful skill that they could not even give vent to their surprise in their usual clamor.

"And now," said Locksley, "I will crave your Grace's permission to plant such a mark as is used in the north country, and welcome every brave yeoman to try a shot at it."

He then turned to leave the lists. "Let your guards attend me," he said, "if you please—I go but to cut a rod from the next willow bush."

Prince John made a signal that some attendants should follow him in case of his escape; but the cry of "Shame! shame!" from the multitude induced him to alter his purpose.

Locksley returned almost instantly with a willow wand about six feet in length, perfectly straight, and rather thicker than a man's thumb. He began to peel this with great composure, observing at the same time that to ask a good woodsman to shoot at a target so broad as had hitherto been used was to put shame upon his skill.

For his own part, he said, and in the land where he was bred, men would as soon take for their mark King Arthur's round table, which held sixty knights around it. "A child of seven years old," he said, "might hit yonder target with a headless shaft; but," added he, walking deliberately to the other end of the lists, and sticking the willow wand upright in the ground, "he that hits that rod at five-score yards, I call him an archer fit to bear both bow and quiver before a king.

"My grandsire," said Hubert, "drew a good bow at the battle of Hastings, and never shot at such a mark in his life—and neither will I. If this yeoman can cleave that rod, I give him the prize. A man can but do his best, and I will not shoot where I am sure to miss. I might as well shoot at the edge of our parson's whittle, or at a wheat straw, or at a sunbeam, as at a twinkling white streak which I can hardly see."

"Cowardly dog!" said Prince John, "Sirrah Locksley, do thou shoot; but if thou hittest such a mark, I will say thou art the first man ever did so. Howe'er it be, thou shalt not crow over us with a mere show of superior skill."

"I will do my best, as Hubert says," answered Locksley; "no man can do more."

So saying, he again bent his bow, but on the present occasion looked with attention to his weapon, and changed the string, which he thought was no longer truly round, having been a little frayed by the two former shots. He then took his aim with care, and the multitude waited in silence.

The archer justified their opinion of his skill; his arrow split the willow rod against which it was aimed. A jubilee of shouts followed; and even Prince John, in admiration of Locksley's skill, lost for an instant his dislike to his person.

—*Sir Walter Scott,*
From *Ivanhoe.*

Helps to Study

1. Make a list of the words in this selection which are new and strange to your ears. 2. Give phrases which indicate Robin Hood's, or Locksley's, character, as, *same, calm countenance.* Express in your own words his character, as, *bold,* etc. 3. What was Prince John's attitude toward him?

Things to Do

1. Plan to dramatize this "Archery Contest" for an outdoor program. 2. Make costumes out of green cambric. 3. Make the bows and arrows, target, etc. 4. Read Other Selections to get the spirit of the times.

Other Selections: Robin Hood, Howard Pyle; *Tales and Plays of Robin Hood,* Skinner; *Robin Hood Ballads.*

COSTUMING

"All the World's a stage
And we are only players"—*Shakespeare.*

Did you ever spend a rainy afternoon, in the attic, with your "nintimate" friend, as Emmy Lou says, dressing up in mother's cast-off garments? Could anything be more elegant than the long dress with the long, sweeping train, and with your hair done high? You were—well, you were just anyone your fancy dictated, Queen Elizabeth, perhaps, if you had ever heard of her. Nothing less than a queen, or a princess, would satisfy you, unless it was just to play "Mother."

I remember one dress-up occasion which occurred on a sunny afternoon in an old-fashioned garden under a protecting bower of lilac bushes, snowballs, and honeysuckles. Here my friend Grace and I fashioned garlands of green leaves, and crowns of honeysuckle vines until, as the shadows lengthened, we became fairies of the greenwood, the fairest of Queen Titania's court; then,—rude awakening—we were called to supper!

An actor pretends to be somebody else—the character he is playing. He wears a costume for the purpose of deceiving his audience and making the unreal seem real. We practice the same art, in our

dramatization of stories at school; and the story-teller, who suggests the character he represents by something that tricks our imagination into a belief that not he, but the real character stands before us, has used costuming effectively. It may be the twist of a lock of hair, or the turn of a scarf; but it helps to bridge the gap.

Costuming for stories and plays at school is a simple matter, for the most part. A paper crown and a wooden scepter convert a laughing schoolboy into a dignified king; while a shawl, or bright colored cloth of any kind skilfully draped about the head, is all that is needed to deck out a fairly real-looking Arab. I have seen a group of round, rosy-cheeked girls become beautiful Greek maidens by simply a change of garb—the long draped tunic of cheese cloth, and a gold band to hold back the flowing hair. They were no longer school girls, but vestal virgins—tending the hearth, or Penelope awaiting the return of Ulysses.

It is an easy matter to find suitable materials—cheese cloth, or silkaline for long flowing robes, while unbleached muslin can be dyed almost any color and used for short tunics, aprons, and smocks. Tarlatan, tulle, and net can do wonders in transforming little girls into fairies and flowers. Then what creations of crepe paper are possible! The fairyland of flowers appears when deft fingers work upon the flower-like bonnets and the scalloped kirtles. With an idea in mind, and a choice in

material, form, and color, willing fingers can work wonders. Here are descriptions of a few typical costumes which were worn in a May Day Festival:

1. *May Queen.* A long, short-waisted gown of soft, white cheese cloth; yoke and puffed sleeves laced with gilt braid, or gold paper. Veil of tulle or net, fastened to the head with a wreath of flowers; white shoes, and stockings.

2. *Shepherdess.* A full skirt of green cheese cloth, silkaline, or crepe paper with overskirt in figured material, and a bodice of white. The bodice is made by draping two pieces of cloth or paper in surplice fashion across the shoulders and fastening at the waist with a girdle. Large hat trimmed with paper flowers. Add a crook, and you have "Little Bo-Peep."

3. *Peasant Costume.* A full gathered skirt in blue, black, white, or green, a white guimpe, colored bodice, and apron. An ornamental hat or cap. The Highland lassie wears a plaid Scotch cap; the Dutch girl, a quaint white bonnet.

4. *Flowers.* Wild Rose. A long waisted dress of pink cheese cloth, square neck, short puffed sleeves. Over this an overdress of green and pink net, cut in the form of petals and sepals of a wild rose; green stockings and low, black shoes. Add a headband of pink ribbon.

Crocus or Iris. Long straight tunic of cheese cloth or unbleached muslin, scalloped at bottom. Dip the lower edge of skirt in purple dye. Let it dry,

then dip again. Use a brush to make the purple streaks. Let the colors run and gradually grow lighter in hue toward the waist. If you use plenty of water with the color, you will get good effects.

You are working for effects, for an illusion, something that will make your audience believe, for the moment, that the real thing is before them. So much depends upon form, color, and material, and light, in this "make-believe" world. One must carefully study the character, the time, and the event, as anyone will tell you who has had anything to do with staging a play, directing a pageant, or producing a film drama. Costuming then becomes the work of artists who seek to give us truth and beauty for the purpose of our enjoyment.

—*Isobel Davidson.*

Things to Do

1. Make one of the costumes for your sister's doll. 2. Plan a costume for Mother Ceres in an autumn festival. 3. List the principal characters in at least six stories in this book and indicate the bit of costuming, the material needed, which would help to make the story more real to your audience, such as: The Land of Gold: Pizarro—Spanish: bolero, broad hat with feather; sateen, plume. Inca—Indian: brown smock, wooden spear; lining. King—crown, scepter; paper, wood.

Other Selections: *When Mother Lets Us Sew*, Johnson; *Emmy Lou*, Martin; *Emmelieu*, Singmaster; *What Shall We Do Now?*, Canfield; *Comelia*, Peekins; *Lost Indian Magic*, Moon; *Historical Plays*, Bird and Starling; *The Doll's Dressmaker*, Dickens.

BOYHOOD IN THE SOUTH

Compare the boyhood days of this southern lad with those of a northern boy living at that same time, say, John Muir. What are the striking differences?

My birthplace was my father's plantation in Upson County, Georgia, on the banks of the Flint River, and there my early boyhood was passed. In the days before the war, there were no railroads, no telegraphs, no daily newspapers, and few mails in that portion of the country. The cost of postage on a letter was five or ten cents, according to its size and the distance it was to go. The mails were carried in well-settled districts on horseback, and between important towns in stagecoaches. As the coaches, drawn by teams of four horses, with bugles sounding their approach, swept along the roads, they aroused in the country people more interest than would now be excited by the finest train of Pullman cars. The drivers, mounted on their lofty seats, were the envy of aspiring boys.

On the plantations of that day, there was no machinery for compressing cotton into bales. The long bag was hung under a platform with a large, round hole in the floor, through which the lint cotton was thrown by hand into the swinging bag below. The packing was done by the most faithful

and stalwart negro on the place, who stood inside the bag and tramped the cotton with his feet as it came down, and then pounded it with an iron bar.

The packer on my father's plantation was the negro foreman, known only as "Captain"—a very impressive personage, tall and straight, with side whiskers, and of austere bearing. He seemed to "boss" not only the negroes, but everybody and everything on the plantation. He would come out of this packing process covered from head to foot with a thin coating of lint cotton, looking like a man of snow with a black face. His habit was to get rid of the fine, fleecy lint by burning it off. Applied near his ankles, the flame ran over him in a second, cleaning off the lint with no perceptible damage to his clothing.

When about six years old, I was standing by the fire when Captain came out of the cotton bag covered with an unusual amount of lint, and said to me, "Touch me off now!" I obeyed. The blaze swept over him, cleaning off the lint from foot to head —and the side whiskers, too! He was cured of that habit.

Several years after this my father moved to North Georgia. Although plantation life there differed somewhat from that peculiar to the cotton belt, there were the same kindly relations between the master and his men, the same free intercourse between the white and black boys on our plantation. We felt ourselves responsible for the protection of

our black followers in case of conflicts with other boys; and I may add that the black companions of my boyhood drew me into a larger number of pitched battles in their defense than I afterwards fought in my four years in the Confederate Army.

Constant and free intercourse from early childhood to mature years between the young white boys and their black companions developed a bond of true sympathy which the abolition of slavery has not wholly broken; and these ties of real affection between boys of both colors, between the white girls and their black maids, between the very young white children and their black "mammies" and nurses, ought to be a sufficient explanation of that wonderful loyalty of the slaves to the defenseless women and children left on the plantations during the Civil War.

In the fall season there were "corn shuckings," when the negroes from adjoining plantations met, first on this place and then on that, and shucked the great piles of corn, singing as they worked. When the work was finished at night, they seized the young master of the place, and hoisting him on their shoulders bore him triumphantly around the premises to the great supper table, still singing their "corn songs."

On the Fourth of July the great plantation barbecues marked the day for the darkies. The entire expense was of course borne by the owner of the plantation. The negroes, old and young, male

and female, assembled and roasted pigs, and lambs and kids, ending with a frolic of strange games and dancing at night.

The great holiday of the year was the "Chris'mas time," as it was then called. At this festive occasion there was scarcely any restriction put upon the slaves; no limit to the liberties they were permitted to take with "ole marster" and "missus" and the younger members of the household. The excited darkies felt at liberty to creep silently into "the white folks's house" at earliest dawn, and often before the dawn, on Christmas morning, and startle every member of the household by shouting, "Chris'-mas gif', ev'ybody!" Of course all responded with a gift.

Inbred as is hospitality among the Southern planters, their ruined fortunes have now rendered impracticable such visiting as was common fifty years ago. At that time large numbers of people of wealth, education, and refinement lived upon the plantations, and the hospitality was boundless. When a planter paid a visit, he frequently carried wife, children, servants, carriages, and horses, and settled down for an indefinite period of social enjoyment.

The building of the first school that I attended stood in a woodland not far from the main highway. It was built of hewn logs, but was well finished inside and out. At each end of the room there was an immense chimney, and in those broad fireplaces

during the winter months great log fires were kept burning. The logs for this purpose were cut and brought in by details of the larger boys.

At another school there were "composition days" and "speaking days" in each week. On the former the larger girls and boys were required to read aloud before the whole school what were supposed to be original compositions or essays on subjects sometimes selected by themselves and sometimes by the teacher. And on the speaking days all except the smallest boys were required to declaim from the stage some selection committed to memory.

During these declamatory exercises the school was permitted to applaud successes and laugh at failures, which not only added interest and piquancy to the occasion, but stimulated the boys to perfect themselves in juvenile oratory, and was most helpful in developing self-control. The teacher himself would occasionally add to the school's amusement by some good-natured remark at the expense of the declaimer.

A friend of mine named Peter had selected for his speech that extract from Patrick Henry's famous oration which begins with the words, "I have but one lamp by which my feet are guided, and that is the lamp of experience."

Peter confidently mounted the rostrum; but although he had quietly memorized his piece in his own room, he had not, as was the habit of more experienced boys, gone to the woods, thundered

away at the trees, and so accustomed his ears to his own voice in declamation. Hence, startled by his own tones as he shouted from the stage, "I have but one lamp—lamp—lamp—," he could get no further. His speech had gone from his memory. He passed his left hand across his forehead in a vain effort to recall it, while with his right he pulled at his trousers as if he thought it might have slipped down into his pocket; but it came not. He began again, "I have but one lamp—lamp—lamp—," and then the teacher, amidst roars of laughter from the school, said, "Come down Peter; your lamp has gone out."

—*John B. Gordon.*

Helps to Study

1. This is a narrative told in the first person. Suppose you divide your class into two groups—a northern and southern group. a. The "Southerners" will read to find out *what* each will tell about life in the south *before the war;* telling it in the first person. b. The "Northerners" will read to find out what is told, and decide upon points to be brought out showing differences, and similarities also, in life at the north. 2. Each side, to win, should outline the story, write out questions, and be prepared to discuss any point raised. 3. The best story teller on each side should be chosen by the class to act as their representatives in presenting this at morning assembly.

Other Selections: Uncle Remus Stories, Harris; *Story of Cotton,* Brooks; *Geographical Readers*; *Uncle Tom's Cabin,* Stowe; *The Story of My Boyhood,* Muir; *The Hoosier Schoolmaster,* Eggleston.

THE BATTLE OF THE ANTS

Did you ever watch ants on an ant hill? If you haven't, you have a pleasure awaiting you. But you'll have to promise to be as still as the chained Giants of Bandbeggar's Hall, and as observant as an Indian. Then, if you have the gift of imagination, you can tell your experience as interestingly as Thoreau has done. Find out what kept Thoreau on the wood pile for so long.

One day when I was out to my wood pile, or rather my pile of stumps, I observed two large ants, the one red; the other much larger, nearly a half inch long, and black, fiercely contending with one another. Having once got hold they never let go, but struggled and wrestled and rolled on the chips incessantly.

Looking farther I was surprised to find that the chips were covered with such combatants, that it was not a *duellum* (duel) but a *bellum* (war) a war between two races of ants, the red always pitted against the black, and frequently two reds against one black. The legions of these Myrmidons (soldiers) covered all the hills and vales in my wood yard and the ground was already strewn with the dead and dying, both red and black. It was the only battle I had ever witnessed, the only battlefield I had ever trod while the battle was raging; internecine war; the red republicans on the one hand and the

black imperialists on the other. On every side they were engaged in deadly combat, yet without any noise that I could hear, and human soldiers never fought so resolutely.

I watched a couple that were fast locked in each other's embraces, in a little sunny valley amid the chips now at noonday prepared to fight until the sun went down, or life went out. The smaller red champion had fastened himself like a vice to his adversary's front, and through all the tumblings on that field never for an instant ceased to gnaw at one of his feelers near the root, having already caused the other to go by the board; while the stronger black one dashed him from side to side, and, as I saw on looking nearer, had already divested him of several of his members. They fought with more tenacity than bulldogs. Neither manifested the least disposition to retreat. It was evident that their battle cry was conquer or die.

In the meanwhile there came along a single red ant on the hillside of this valley, evidently full of excitement, who either had despatched his foe, or had not yet taken part in the battle; probably the latter, for he had lost none of his limbs; whose mother had charged him to return either with his shield or upon it.

Or perchance he was some Achilles, who had nourished his wrath apart, and had now come to avenge or rescue his Patroclus. He saw this unequal combat from afar—for the blacks were nearly twice

the size of the reds, he drew near with rapid pace till he stood on his guard within half an inch of the combatants; then, watching his opportunity, he sprang upon the black warrior, and commenced his operations near the root of his right fore leg; and so there were three united for life, as if a new kind of attraction had been invented which put all other locks and cements to shame.

I should not have wondered by this time to find that they had their respective musical bands stationed on some eminent chip, and playing their national airs the while, to excite the slow and cheer the dying combatants. I was myself excited somewhat, even as if they had been men. The more you think of it the less the difference. And certainly there is not the fight recorded in Concord history, at least, if in the history of America, that will bear a moment's comparison with this, whether for the numbers engaged in it, or for the patriotism and heroism displayed.

Concord fight! Two killed on the patriot side and Luther Blanchard wounded! Why, here every ant was a Buttrick—"Fire! for time's sake fire!" and thousands shared the fate of Davis and Hosmer.

There was not one hireling then. I doubt not it was a principle they fought for, as much as our ancestors, and not to avoid a three-penny tax on their tea; and the results of this battle will be as important and memorable to those whom it concerns as those of the Battle of Bunker Hill, at least.

I took up the chip on which the three I have particularly described were struggling, carried it into my house and placed it under a tumbler on my window sill in order to see the issue. Holding a microscope to the first-mentioned red ant, I saw that, though he was still gnawing at the near fore leg of his enemy, having severed his remaining feeler, his own breast was all torn away, exposing what vitals he had there to the jaws of the black warrior, whose breastplate was apparently too thick for him to pierce; and the sufferer's eyes shone with ferocity such as war only could excite.

They struggled half an hour longer under the tumbler, and when I looked again, the black soldier had severed the heads of his foes from their bodies; and they were still hanging on either side of him like ghostly trophies at his saddle bow, still apparently as firmly fastened as ever; and he was endeavoring with feeble struggles, being without feelers and only the remnant of a leg and I know not how many other wounds, to divest himself of them; which at length after half an hour more he accomplished. I raised the glass and he went off over the window sill in that crippled state. Whether he finally survived that combat, and spent the remainder of his days in some Hotel for Invalids, I do not know; but I thought that his industry would not be worth much thereafter.

I never learned which party was victorious, nor the cause of the war; but I felt for the rest of that

day as if I had had my feelings excited and harrowed by witnessing the struggle, the ferocity and carnage, of a human battle before my door.

—*Henry D. Thoreau,*
From Walden.

Helps to Study

1. Read as quickly as you can the entire selection to get the swing, the movement of it. If it interests you, can you tell why? What has Thoreau put into it to stir your interest? 2. Read again, if necessary, and give a name to each paragraph, or a combination of two paragraphs, thus:

a. The Combat of Ants

b. A Race War—the Blacks and the Reds, etc.

3. Thoreau keeps up the spirit of war by introducing names from history. List the names and indicate the nation at war, as, *red republican*, and *black imperialists*—France, French Revolution. 4. Find some interesting situations happily expressed, as, "in a little sunny valley amid the chips," "to return with his shield or upon it," etc. 5. Use your dictionary for difficult words, as Myrmidons, tenacity, etc. Find words with *com* as a part, as, *com*bat, etc.

Things to Do

1. Observe ants at work, at war, and write a report on your observation. 2. Make a flat glass enclosed case for ants. Read *Nature Study and Life* by Hodge to find out how to make it. 3. Investigate the life history of an ant. Make a report to your classmates.

Other Selections: The Ants' Sunday Dinner, H. H. Jackson; *Ants of the Tropics*, South America, Carpenter; *King Solomon and the Ants*, Whittier; *The Nightingale and the Glow Worm*, Cowper; *The Discovery*, Smedley.

THE FIRST STEAMBOAT

Elsewhere in this book is a poem entitled "It Couldn't Be Done." Read it to see if it applies to Robert Fulton.

To Robert Fulton goes the honor of having invented the first steamboat. This was in 1807. The boat was launched upon the Hudson River and named the *Clermont*. Her trial trip was from New York to Albany and required thirty-two hours. Steamers to-day make the hundred forty-mile trip in less than six hours.

The best account of that historical event is given by the inventor himself. He says:

"When I was building my first steamboat, the project was viewed by the public at New York either with indifference or contempt, as a visionary scheme. My friends indeed were civil, but they were shy. They listened with patience to my explanations, but with a look of incredulity on their countenances. I felt the full force of the sad words of the poet:

> 'Truths would you teach to save a sinking land?
> All shun, none aid you, and few understand.'

"As I had occasion to pass daily to and from the building yard while my boat was in progress, I often loitered, unknown, near the idle groups of strangers gathered in little circles, and heard various inquiries as to the object of this new vehicle. The

language was uniformly that of scorn, sneer, or ridicule. The loud laugh rose at my expense; the dry jest, the wise calculations of losses and expenditures; the dull but endless repetition of "The Fulton Folly!" Never did an encouraging remark, a bright hope, or a warm wish cross my path.

"At length the day arrived when the experiment was to be made. To me it was a most trying and interesting occasion. I wanted my friends to go on board and witness the first successful trip. Many of them did me the favor to attend, as a matter of personal respect, but it was manifest they did it with reluctance, fearing to be partakers of my mortification and not of my triumph.

"The moment approached in which the word was to be given for the vessel to move. My friends were in groups on the deck. There was anxiety mixed with fear among them. I read in their looks nothing but disaster. I almost repented of my efforts. The signal was given, and the boat moved on a short distance, and there stopped and became immovable.

"To the silence of the preceding moment now succeeded murmurs of discontent and agitation, and whispers, and shrugs. I could hear distinctly repeated, "I told you so—it is a foolish scheme. I wish we were well out of it." I elevated myself on a platform and addressed the assembly. I stated that I knew not what was the matter; but if they would indulge me for a half hour, I would either go on or abandon the voyage for that time.

"This short recess was granted without objection. I went below and examined the machinery, and discovered that the cause was a slight defect in a part of the work. This was soon remedied; the boat was put again in motion; and continued to move on. All were still incredulous; none seemed willing to trust the evidence of their own senses.

"We left the fair city of New York; we passed through the romantic and ever-varying scenery of the Highlands; we beheld the clustering houses of Albany; we reached the shores; yet, even then, some of the passengers shook their heads. It was doubted if the trip could be made again."

—*Robert Fulton.*

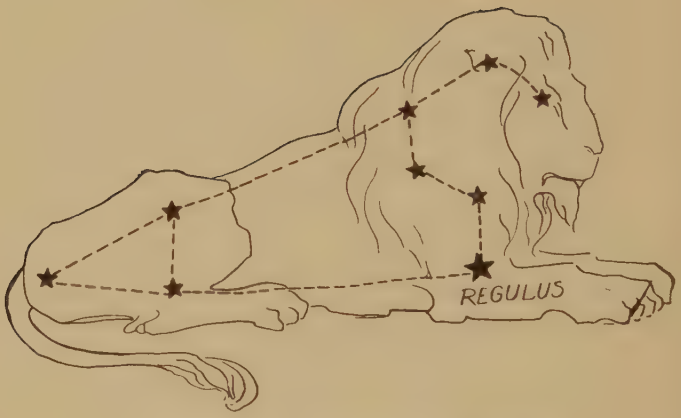
Helps to Study

1. Robert Fulton was not writing for boys and girls, but aided by the dictionary, you can get the meaning of his sentences, and the thought of the paragraphs. Find the meaning of words in Italics: indifference and *contempt; visionary* scheme; look of *incredulity* on their *countenances;* wise *calculations; mortification* and not *triumph; abandon* the voyage. 2. What was the attitude of the public, and of Fulton's friends toward his project? Read any one sentence which you think proves your statement. 3. Describe the launching of the boat.

Things to Do

1. Read "The First Steamboat" in *Days and Deeds of a Hundred Years Ago,* and compare the two. Which is more interesting? Which gives more facts?

Other Selections: Same Story, Any American History Text.



A LION THAT TWINKLES

Find where to look for this "Lion That Twinkles" and how to find him among the rest of the stars.

It was nine o'clock of a mid-April evening. Wrapped in heavy blankets, Great Uncle John Harris and his two nephews, Ted and Jack Kennedy, were lying under the stars, on the shore of Lake Crystal, a few miles from the boys' home. The three had hiked out after school to pass the night under the open sky, and to spend Saturday about the sugar camp and on the lake.

As they lay on their backs, looking up into the dark-blue, star-spangled sky, they traced the star groups they had learned, and found new ones.

"I see something," Ted pointed almost directly overhead, "that looks like the old sickle with which daddy cut grass about the trees last summer."

"There, laddie, you've named the group right," returned Uncle John. "It is called the Sickle, and is part of a larger group known as the Lion. Do you see it, Jack?"

After a few moments of silence, Jack replied: "Is it just half way across from the east to the west, Uncle, and the handle pointing down, with the back of the sickle to the east?"

"You have it, Jackie. Now notice the very bright star in the end of the handle. That is Regulus. Notice how sparkling bright Regulus is. Count it for the thirteenth in the list of the fifteen brightest stars which you are learning. Now see the lion. The sickle forms the head and shoulders of the creature. Regulus shines about where the lion's heart should be. The lion is lying down, facing the west. Of the three stars that make a triangle a little west of the sickle, two are at the rear end of the lion's body and the third in the end of his tail."

"Why, it's very like a lion," Ted declared.

"The Lion and the Big Dipper and the Northern Crown are easy enough to trace," added Jack. "How pretty the Crown is to-night!"

"Look near the Crown for another group I want you to learn now, one not so easy to see, but which is interesting because it represents a famous hero. It is a large figure, shaped something like a man's body, with three waving arms and legs."

"The hero must have lost an arm or a leg then," laughed Ted.

"Or severely wounded," added Uncle John, "for he is down on one knee. This figure is Hercules."

"Oh, our story book tells about the giant Hercules, who was so strong he could do anything. I want to see him, Uncle."

"Suppose, then, Ted, we find first the dragon, on the head of which Hercules has placed his foot. Beginning about halfway between the Big Dipper and the North Star, trace a winding line of stars down toward the south until it ends in a small triangle. That winding line is the Dragon, the triangle its head. Do you see it?"

"I do!" Jack cried, and a moment later, from Ted, "So do I!"

"Now, Hercules stands with his head to the south, since one foot is upon the Dragon's head. As I said, he is supposed to be down on one knee. Those two crooked prongs stretching out toward the south are his arms. One is uplifted as if to strike, the other outstretched."

After a little both boys could see Hercules. Ted thought the giant seemed to be holding something in the outstretched hand, and Uncle John replied, "Some say he is clutching a captured enemy."

"Hercules is after the Dragon; Orion is chasing the Bull; and Bootes and his Dogs are driving the Bears. There's some excitement up there," Jack declared, "and they're shooting stars!"

Ted thought that if he didn't know a whole lot better, he might think, when he saw falling stars,

that the fighters up there were shaking them down, but Uncle John replied:

"The stars do not fall, laddie. What you call falling, or shooting, stars are meteoroids—star fragments that dissolve into shining dust as they shoot through the atmosphere. The stars have their fixed places in the sky, always traveling the same paths. Not one of all the twinkling lights looking down upon us to-night, or of the thousands upon thousands more that a good telescope would show you, ever misses its way. God's hand guides each and every one in its nightly journey across the bending blue curtain. Sometimes the clouds hide them from us, but they are always there, sending out their little beams of light to some good purpose.

"This old uncle of yours, little mates, has traveled in many parts of the world, and when he has been far from home, he has found it a great comfort to look up into the heavens from the deck or the pilot-house of his vessel and see the same old stars beaming down in their friendly way. They speak to him of God's love and care for all his creatures."

—*Josephine E. Toal.*

Helps to Study

1. From what point were the boys and their uncle observing the star-groups? 2. How did they locate the lion? 3. What other star-groups are found in that same region? 4. Locate the different star-groups mentioned and make sketches of each.

PLAIN BUTTONS

If some one were to offer insult to Old Glory, what should be done to him? After reading this selection, ask yourself if the man's punishment was just.

Once there was a man, an officer in the American Army, who said something dreadful when he was only a mere boy; he cursed his native country! He pretended for a while that he didn't care, when he was punished for his wrongdoing, but in the end he was very, very sorry. Because he wore his uniform without the official buttons, the sailors on the ships where he spent his life called him "Plain Buttons."

His name was Philip Nolan. He had been brought up on a southern plantation where the most welcome guests were Spanish or French officers. He spent half of his time with an older brother hunting wild horses in Texas. The "United States" meant almost nothing to him.

Still, when he grew up he became an officer in the army of the "United States." Nolan was a lieutenant in the "Legion of the West," as our western army was called one hundred years ago.

At that time the Mississippi Valley was the "far west" to most people, and seemed a very distant land indeed. We had a number of forts along the river and Lieutenant Nolan was stationed at one of these. Nolan's idol was the brilliant and dashing

Aaron Burr, who visited the fort several times between 1805 and 1807. He paid some attention to Nolan and gained a very strong influence over him.

Burr got into trouble and some of his friends were tried for treason, Nolan among them. It was very plain Nolan would do anything Burr told him; that he would obey Burr far quicker than his country, in spite of his oath.

So when the president of the court asked Nolan, at the close of the trial, whether he wished to say anything to show that he had always been faithful to the United States, he cried out in a fit of frenzy, "Curse the United States! I wish I may never hear of the United States again!"

Colonel Morgan who was holding the court, turned white as a sheet. Half of the officers who sat in it had served through the Revolutionary War and had risked their lives, not to say their necks, cheerfully and loyally for the country which Nolan so lightly cursed in his madness. Colonel Morgan, terribly shocked, called the court into his private room and returned in fifteen minutes to say:

"Prisoner, hear the sentence of the Court. The Court decides, subject to the approval of the President, that you never hear the name of the United States again."

Nolan laughed, but the whole room was hushed dead as night for a minute. Then Colonel Morgan added, "Mr. Marshall, take the prisoner to Orleans in an armed boat and deliver him to the naval com-

mander there. Request him to order that no one shall mention the United States to the prisoner while he is on board ship."

Colonel Morgan himself went to Washington and President Jefferson approved the sentence; so a plan was formed to keep Nolan constantly at sea. Our navy took few long cruises then, but one ship could carry the prisoner as far as it was going and then transfer him to another vessel before it sailed for home.

Nolan wore his uniform, but with plain buttons. He always had a sentry before his door, but the men were as good to him as his sentence permitted. No mess wanted to have him with them too steadily because they never could talk about home matters when he was present—more than half the talk men like to have at sea. So they took turns inviting him to dinner, the captain always asking him on Mondays. He could have any books or papers not printed in America. Newspapers had first to be gone over and all allusions to America cut out.

Nolan used to join the men as they were reading on deck and take his turn at reading aloud. Once when they were cruising around the Cape of Good Hope, somebody got hold of Scott's "Lay of the Last Minstrel." Nolan was reading when he came to this passage:

> "Breathes there a man with soul so dead
> Who never to himself hath said

This is my own, my native land?
Whose heart hath ne'er within him burned
As home his footsteps he hath turned
From wandering on a foreign strand?
If such there be, go, mark him well;
For him no minstrel raptures swell;
High though his titles, proud his name,
Boundless his wealth as wish could claim,—
Despite those titles, power, and pelf,
The wretch, concentred all in self—"

Here the poor fellow choked, and could not go on, but started up and flung the book into the sea and fled to his stateroom. It was two months before he dared join the men again.

There was a change in Nolan after this. He never again read aloud from anything unless he was sure of it, like the Bible or Shakespeare. He was always shy afterwards, and looked like a heart-wounded man. Sometimes he tried to trap people into mentioning his country, but he never succeeded; his sentence was too well known among the men who had him in charge.

One time he went with a young officer named Vaughn to overhaul a dirty little schooner which had slaves on board. Nolan was the only one who could speak Portuguese, the language used by the slavers. There were but few of the negroes. Vaughn had their hand-cuffs and ankle-cuffs knocked off and put on the rascals of the schooner's crew. Then

Nolan told the blacks that they were free and that Vaughn would take them to Cape Palmas.

Now Cape Palmas was a long way from their native land, and they said, "Not Palmas. Take us home, take us to our own country, take us to our pickaninnies and our women." It was terribly hard for Nolan, but he translated these speeches and told the negroes Vaughn's answer in some manner.

As they were rowing back, he said to a midshipman of whom he was fond, "Youngster, let that show you what it is to be without a family, without a home, and without a country. And if ever you are tempted to say a word or do anything that shall put a bar between you and your family, your home and your country, pray God to take you that instant home to His own heaven.

"And for your country, boy, and for that flag, never dream a dream but of serving her as she bids you, though the service carry you through a thousand hells. No matter what happens to you; no matter who flatters you or who abuses you, never look at another flag, never let a night pass but you pray God to bless that flag. Remember, boy, that behind all these men you have to do with, behind officers and government, and people, even, there is the Country Herself, Your Country, and that you belong to Her as you belong to your own mother."

And then Nolan added, almost in a whisper, "Oh, if anybody had said so to me when I was your age!"

Years passed on, and Nolan's sentence was unre-

voked, though his friends had once asked for a pardon.

The end came when Nolan had been nearly fifty years at sea. He asked the ship's doctor for a visit from another midshipman, Danforth, whom he liked. Danforth tells us about Nolan's last hours and calls him "dear old Nolan," so we know his love was returned.

The boy saw what a little shrine poor Nolan had made of his stateroom. Up above were the stars and stripes, and around a portrait of Washington he had painted a majestic eagle with lightnings blazing from his beak, and his foot just clasping the globe. Nolan said with a sad smile, "Here you see, I have a country." Over the foot of the bed was a great map of the United States, drawn from memory. Queer old names were on it, names such as he had learned, like "Indian Territory" and "Louisiana Territory."

"Danforth," he said, "I know I am dying. I am sure that you know there is not in all America—God bless her!—a more loyal man than I. There cannot be a man who loves the old flag as I do, or who hopes for it as I do. Tell me something, tell me everything before I die!"

Then the young midshipmen re-drew the map and tried to tell all that had happened to our great and growing country in fifty years. Only he could not wound his friend by mentioning the Civil War.

Nolan drank it all in and enjoyed the story more than we can tell. After that he seemed to grow

weary and asked for his Bible, telling Danforth to look in it after he was gone. He had marked this text.

> "They desire a country, even a heavenly; wherefore God is not ashamed to be called their God; for He hath prepared for them a city."

On a slip of paper he had written, "Bury me in the sea; it has been my home, and I love it. But will not some one set up a stone to my memory at Fort Adams, or at Orleans, that my disgrace may not be more than I ought to bear? Say on it:

In Memory of
PHILIP NOLAN
Lieutenant in the Army of the United States
"He loved his Country
as no other man has loved her;
but no man deserved less at her hands."
—*Edna S. Knapp.*

Courtesy, F. A. Owen Company.

Helps to Study

1. There are three parts to this splendid story. Give each an appropriate heading, and indicate the main points under each one. 2. Ask five questions which require thoughtful reading in order to answer, as "What two influences helped to make Nolan rather careless—and flippant in thinking about his country?" 3. What reasons have you for loving our country and for defending her? How can you best defend her? 4. Commit to memory, the lines you like best from the stanzas taken from Scott's "Lay of the Last Minstrel."

Other Selections: The American Boy, Anon; *Our Native Land,* Brooks; *So Much of Goodness,* Joaquin Miller; *There is a Land,* Montgomery; *America,* Lanier; *Man Without a Country,* Hale.

"As fagots are brought from the forest,
Firmly held by the sinews which bind them,
I will cleave to my Camp Fire sisters
Wherever, whenever I find them."

To many of us who have sat around the Council Fire, and have shared the glad times of camping and hiking with our Camp Fire comrades, the words "Camp Fire" have a hidden meaning, something more than just the name for an organization. Perhaps it would make it clearer to say that "Camp Fire Girls" is the name of the organization, and "Camp Fire" the name of the spirit behind the organization, that spirit which impels one to seek romance, beauty, and adventure in everyday life.

Unfortunately, many homes with all their modern improvements—steam heat furnaces, electric fixtures and so forth—have crowded out the fireplace, or at least, turned it into a sham gas-log. For me nothing radiates warmth, hospitality, and friendliness, so much as a grate fire—a real fire, into the glowing heart of which one may look and find wonderful dream pictures, castles, and fairyland You

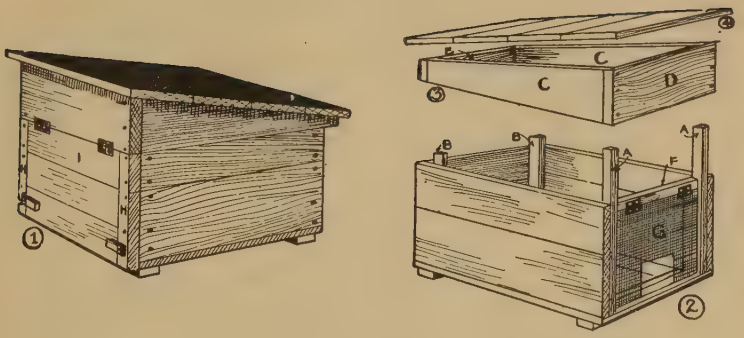
can't always find those things in a gas-log's flame. But however that may be, Camp Fire Girls who have caught the spirit of the hearth, may put that warmth and friendliness into the home without the aid of a grate fire.

To be more concrete, if her family has fallen into the way of scattering, each member to his or her own room, so that there is not time when the family comes together for good fellowship, she—this Camp Fire Girl with the secret of the hearth fire—will devise some way of bringing the various members of the family together once in a while for a good time. It may be singing together or playing a game in which all may take part, or it may be simply to hear father or mother read a fascinating story. But there will be some way to draw the family together for the all-together time which means so much. All my life I shall remember certain evenings when we, in our home, grouped ourselves around the piano, singing, while mother played the old songs we all knew by heart.

In time, Camp Fire becomes such a living thing that it radiates far beyond the walls of the home, and carries the home spirit into the community. And so in many, many ways the larger home life is made richer and happier because of the Camp Fire Spirit.

—*Naveena-Kim.*

Other Selections: No Moon, Book V; *Camp Fire Stories*, Every Girl's Magazine.



A POULTRY SETTING COOP

Not long ago a certain store window exhibited the latest devices used in poultry raising. Follow Mr. Hall's directions and you will have the latest and best home for your hen and chicks.

Most poultry men set their hens and incubators in February and March so that the pullets of the spring hatch will be laying before the arrival of cold weather. But the average person is content to await the arrival of warm weather, when the setting coop can be placed outdoors without danger to the chicks.

You will want a setting coop, if you keep poultry. The coop shown here in Figure 1 is simple to make. It is built out of a large wooden box, and is made in two sections. The box forms the lower section, Figure 2. The sides are not high enough, so an upper section is built to fit on top of the box, as at Figure 3.

The roof boards, Figure 4, are nailed to the frame. This upper section is removable, thus making the inside of the coop accessible.

Remove one end of the box, and nail cleats across the bottom near either end, as Figure 2 shows them. The cleats will keep the box bottom off the ground, and at the same time will bind the bottom boards together.

Corner uprights A and B, Figure 2, hold the upper section in position when it is set down over them. Strips A are several inches longer than strips B, to allow for the pitch of the roof.

The length of side pieces C and end pieces D and E of the upper section of the coop will be determined by the dimensions of the lower section. Sides C are cut longer than the lower section, so as to project beyond the back of the coop, to form a ventilator. A narrow strip can be hinged to board E for a shutter to close the ventilator. Slant side pieces C from a width of six inches at one end to three inches at the other end. Cut the roof boards of the right length to form a projection of four inches over the sides and ends of the coop. Nail them to the upper section, and tack roofing paper to them to make the roof water-tight.

The front of the coop is provided with two doors—a wire guard with an opening large enough for the chicks to pass through, G, in Figure 2, and a wooden shutter, I, in Figure 1. Fasten strip F, Figure 2, between uprights A, and fasten guard G to this with

hinges. Tack the wire to a wooden frame, cutting an opening two and one-half inches square for a doorway. A piece of the wire or tin may be hinged to drop over the doorway. Fasten strips H, Figure 1, to the front of the coop. Batten together several boards to form shutter I, and hinge the shutter in place. Provide buttons for locking wire guard G and shutter I; also hooks for holding them open.

A poultry run may be made of the same width and height as the coop and any length desired. Strips one by two inches may be used for the side frames. Connect them with cross pieces at the ends and cover with poultry wire.

—*A. Neely Hall.*

Help to Study

Plan to tell some one just what Mr. Hall has told you. Will you need to read it a second time, and use illustrations in order to make your meaning clear?

Things to Do

1. Estimate the cost of material needed in making this coop and run. 2. Visit a hardware store to observe all the latest devices used in poultry raising, including incubators. Report to class. 3. Visit a successful poultry man, and ask his judgment upon mooted questions. 4. Find the meaning of the proverb, "Don't count your chickens before they are hatched." Why not?

Other Selections: The Boy's Handy Book, A. Neely Hall; *What Shall We Do Now?* Canfield; *The American Boy's Workshop,* Kelland.

STARS OF THE SUMMER NIGHT

Stars of the summer night,
Far in yon azure deeps,
Hide, hide your golden light,
She sleeps, my lady sleeps,
She sleeps, she sleeps, my lady sleeps.

Moon of the summer night,
Far down yon western steeps,
Sink, sink in silver light,
She sleeps, my lady sleeps;
She sleeps, she sleeps, my lady sleeps.

Dreams of the summer night,
Tell her, her lover keeps
Watch while in slumbers light,
She sleeps, my lady sleeps;
She sleeps, she sleeps, my lady sleeps.

—*Alfred Tennyson.*

A TALK ABOUT WEEDS

If a robber band entered your domain, what would you do? How would you subdue the intruders? You might even train some of them for your servants, but you could do that only by understanding their nature. What experience have you had with weeds? Here are some useful hints in methods of control.

Some one has defined weeds as "plants out of place." In that sense, any flower that escapes from the flower garden into the vegetable garden immediately becomes a weed. In fact, nearly all of our wild flowers, such as the morning glory, golden rod, ox-eye daisy, and many others, if found among the farmer's crops, would be regarded by him as troublesome weeds. From his standpoint, they are plants out of place and, therefore, weeds that must be destroyed.

Some one else has said that all plants were just weeds until their use and worth were demonstrated. There is good ground for this statement. For instance, it was not so many years ago that the tomato plant was regarded as a useless weed and its fruit as poisonous. Alfalfa, a kind of clover, furnishes another illustration. It was just a poor little purple-flowered weed until some one discovered its worth. To-day alfalfa is one of the most valuable forage crops on the farm; and so we might go on to

show that most of the fruits and vegetables of our gardens, in their wild state, were at one time regarded as useless weeds. But scientists tell us there is nothing useless in nature, not even a weed; and that practically all of our wonderful grains and fruits and vegetables have been developed through years and years of careful selection and cultivation.

Nevertheless, a plant out of place is a weed, no matter how valuable it may be by itself in its proper place. Barley is a valuable grain, but mixed with the wheat it is a nuisance. Mustard has a variety of uses, but, mixed in the oat seed, it becomes one of the worst pests on the farm; it becomes what the farmer calls a "noxious weed."

The chief objections to weeds may be stated thus:

1. Weeds mean work. It requires considerable labor to control them, particularly if we do not understand their nature; for sometimes our labor only helps them to grow.

2. Weeds are robbers. Through their roots, they take food from the soil; the more they take, the less there is for the crops, and some weeds are heavy feeders.

3. Some weeds are murderers. Their broad leaves shut out the sunlight and smother out other young plants. See the burdock and plantains for examples.

4. Weeds are heavy drinkers. Through their roots they draw moisture from the soil and give it off through their leaves. They dry up the soil and cause other plants to dry up and die.

5. Weeds are feeding and breeding grounds for insects and help to spread many crop diseases.

6. Frequently weeds are poisonous to stock; they taint the milk, ruin the wool, and cause diseases among horses.

7. Weeds are always an eyesore. They offend good taste and degrade the sense of pride in one's garden or farm.

For these reasons every weed should be regarded as an intruder, a robber of the soil, and a murderer of other crops; and every effort should be made to keep the soil clean and the crops as free as possible from weeds of all kinds.

Perhaps if we understood more about weeds, we should find them more interesting and less difficult to combat.. If the garden and the field crops are threatened with injury or destruction by animal pests, the farmer leaves no stone unturned in order to destroy the pests and save his crops. Thus, he may poison his seed corn to kill the pocket gopher, and spray his apple trees to destroy the codling moth. In any given case, he must know the habits of the injurious animals or insects in order to combat them successfully.

In much the same way, it behooves the gardener or farmer to know which are the gophers and moths among the pestiferous weeds; which

"Will grow and die and blow away
Or go and come some other day."

THREE CLASSES OF WEEDS

1. The *annuals*, weeds that grow from the seed every year. Wild mustard, lamb's-quarters, and shepherd's purse are good examples; they grow from seeds the first season. The plants then die and the seeds are ready to sprout the next season. The annuals generally have fibrous roots and produce a large number of seeds. The seeds in many cases are oily and are covered with hard coatings; they are able to sprout after lying in the ground a long time, even for many years. Such seed may be plowed under deep, and the next year the field may appear clean. A year or two later these seeds are plowed up again, and once more the field will appear weedy and dirty. If this type of weed is cut off before the seeds form, they will be destroyed, for they cannot survive, or reproduce, unless seeds form.

2. The *biennials*, weeds the roots of which live through the winter and produce seed the second season. The wild carrot, wild parsnip, teasel, burdock, blue weed, and mullein are common types of this class. They are usually taprooted and very hardy. It will do no good to cut off the tops the first year, for they will spring up again. Continued cutting off of the root, or better still, the complete removal of the root will be necessary with such weeds.

3. The *perennials*, weeds that live on from year to year—the everlasting pests. In this class belong the ox-eye daisy, dandelion, plantain, and sorrel. They are the hardest to get rid of, and there is hardly

any soil too poor to sustain some kind of a perennial. Some of them, such as the Canada thistle, quack grass, toadflax, milkweed, sow thistle, yarrow, and bindweed are creeping in their roots, that is, they spread by the roots and consequently are the most difficult of all weeds to eradicate.

From these illustrations it will be seen how important it is to know the nature and habits of the weeds—whether annuals, biennials, perennials, and creeping perennials—in order to apply the proper methods to control them.

—*The Club Leader.*

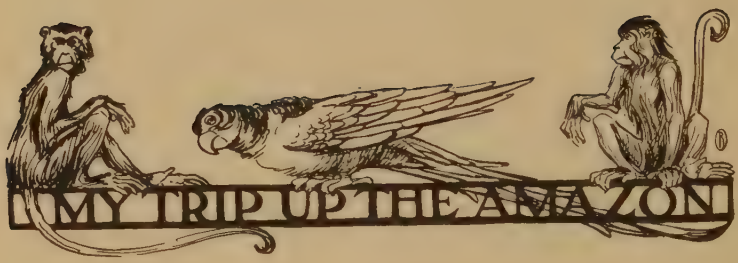
Helps to Study

1. Do you agree with the statements in the first paragraph? 2. What illustrations are given in support of the second definition of weeds? Do you know of any other instance? Where can you find out? 3. Name the chief objections given, and indicate the one which should in your judgment, head the list. 4. Take each objection, as "weeds mean work." List the weeds which require work to control. The list under each will be increased by observation and further knowledge of weeds. 5. State the essential differences found in the three classes of weeds. Illustrate. 6. What is the difference between nuisance and pest?

Things to Do

1. Collect common weeds and classify under the headings given here. 2. List for class use with illustrations, if possible, weeds which have become serviceable to man. 3. Write a short article on "How to get rid of dandelions." 4. Read *Stories of Luther Burbank and his Plant School* by Waldo.

Other Selections: Service, Wordsworth; *Four Leaf Clover,* Higginson; *The Fern Song,* Tabb; *Weeds and Flowers,* Cheney; *A Little Gateway to Science,* Patch.



To determine what was gained by this young man from his month's vacation, and to consider the advantages of such a trip to a young man in business, to a teacher, to a writer

One of the places I long desired to visit was the Amazon River. From the time I was a school boy, my interest in the world's largest river never lagged and I lost no opportunity to read and learn all I could about this wonderful stream. I talked about it to my friends, and my chum said I talked about the Amazon in my sleep.

Be that as it may, when Ralph Perkins said, "Frank, I perceive that you will never be satisfied until you have seen and explored the Amazon country," I listened attentively. "What I propose is this: if that country is half as wonderful as you say it is, I want to see it, too. I've spent one vacation in Canada and another in Mexico. If you are willing, I'll spend the next one with you in the Amazon."

"Agreed!" I shouted. "You couldn't have made a happier suggestion, and I shall be delighted to have for my companion such an experienced traveler as I know you to be." And from that time to the day of our departure, our chief topic of conversation was the necessary plans for our trip.

We left New York on board a steamer bound for Rio de Janeiro. Nothing very eventful occurred during the first few days of our trip and we remained as quiet as possible.

One afternoon the ship's mate came upon deck while Ralph and I were pacing back and forth. Said he, "We are in fresh water now." Then, noticing the puzzled look on our faces, he continued, "It's this way: we are now opposite the mouth of the Amazon River, the waters of which flow unmingled for three hundred miles out to sea. We have reached the Amazon current, although we are some two hundred miles from the mouth of the river. Even when we reach the mouth, we may not see land at once because the river itself is two hundred miles wide."

The mate proved to be an interesting companion, so we urged him to tell us more about the Amazon.

Said he, "The Amazon is not only the largest river in the world, but the most wonderful. She stretches across the continent like a huge serpent and holds in her mouth a piece of land which is larger than the areas of Massachusetts, Rhode Island, and Connecticut combined. The tide runs up the Amazon for

four hundred miles and sometimes pushes a wall of water before it twenty feet high. Ocean steamers may ascend the stream for two thousand miles and river steamers ascend her tributaries for one thousand miles more. She has three hundred fifty branches and, through these, drains about one-half of South America. Surely it is worth your while to make the acquaintance of a river so remarkable."

We observed that the mate spoke with unusual pride about everything pertaining to South America, but when we learned that he was a native of Rio de Janeiro, the reason was plain—he wanted us to know that the United States was not all there was to the Western Continent.

Our first stop was at Para. You may have heard of Para. It is older than any city in North America and is the greatest rubber market in the world. On the streets of Para one meets all classes of people and all races. Here mingle rich and poor, black and white, Indian and negro, Brazilian and foreigner, all on friendly terms of equality. Every one acts as though he had plenty of time and some to spare.

A curious sight is the street peddler. One may be offering for sale tropical birds; another, pet monkeys; and others, pet snakes. Yes, pet snakes! If one were to visit almost any home in Para, he might find a pet snake coiled up in one corner of a room, just as pussy may do in your house. The purpose of these pet snakes is to keep the house free from mice, rats, and other pests.

Leaving Para, we proceeded up the Amazon by river boat. On our right were a number of islands under cultivation. We remarked about the splendid farms and farm buildings, and the herds of fine horses and cattle.

"Don't they remind you of home?" said Ralph. "How do you account for this bit of American life on the Amazon River?"

"I can't account for it," I answered, "but I'll find out." Upon inquiry, I learned that a company of farmers from the United States had settled the islands and developed the farms.

"Just like the Americans," said Ralph. "They are pushing out into all parts of the world and teaching the backward races how to live and how to use and enjoy the products of civilization."

But this was no time to speculate upon Americans. There were too many strange and interesting things to see. The forests along the Amazon are very dense and the underbrush beneath grows thick and rank. The air above is alive with butterflies and other bright colored insects; and the mosquitoes! mercy, they are the most friendly enemies I ever encountered. We found it impossible to ride on deck without mosquito nets over our faces. And the birds! oh, the most wonderful creatures, with plumage of gorgeous colors, and with voices that know all the range of sound.

The Amazon country is the sportsman's paradise. Here he will find wild monkeys without number

swinging and leaping from tree to tree; and the sly jaguar, crouched upon a limb and ready to spring upon his unsuspecting victim; droves of wild pigs, usually harmless, but if one of their number is killed, the hunter had better climb a tree in a hurry; the long lipped tapir, timid and harmless; various kinds of wild fowl, good to eat but hard to catch; snakes, both poisonous and otherwise, among them the huge boa constrictor, capable of seizing a calf and swallowing it whole; and in the waters, sea dragons, and sea cows, turtles and alligators, and fish by the millions. The hunter need not look far for excitement, and sometimes he finds more than he is looking for.

At one place we watched the capture of several alligators. The Indian hunters divided; one party waded into the water and with long poles drove the animals ashore; the other party then rushed upon the frightened creatures and dispatched them with two quick blows from their axes, one in the neck and one in the tail. Alligator meat is good food, but the Indian hunters usually save only the grease and skins for shipment.

It is one thousand miles from Para to Manaos. As we journeyed along, the sailors entertained us with stories about the great river and its demons. They had just finished a story about a river serpent, sixty feet long and five or six feet in girth, that they said stuck its head ten feet out of the water and threatened to attack the boat, when some one ex-

claimed, "There he is now! Shoot him! Shoot him!"

Ralph grabbed his gun and fired. Whether he hit the reptile or not, we could not say; at any rate it did not show its head again. The sailors said it was a fine specimen of the anaconda, the largest of the river serpents.

We reached Manaos a week after leaving Para. This is another curious city and stands on the edge of the wilderness. This is the region that Theodore Roosevelt set out to explore in 1914. He discovered an uncharted river, one thousand miles long, the very existence of which was unknown. In his honor the stream was named Rio Teodoro.

Back of the city is a vast region unknown and unexplored. The only inhabitants are Indians, who live and thrive pretty much as they did four hundred years ago. They do not even know the use of modern weapons. Instead, the Indian hunter uses a blow gun of his own manufacture. It is nothing but a stout, straight reed about ten feet long through which he blows his arrows. One end of the arrow is tipped with a metal point and the other carries a wad of cotton to prevent air from passing through as the arrow is shot. In hunting, the Indian hides in a tree and when a bird, or other object, comes within range—good-bye! It is said the Indian hunter can shoot an arrow through a turtle's neck at a distance of fifty feet.

Early Spanish explorers reported that near the headwaters of this vast river was a country inhabited

by a band of warlike women to whom they gave the name Amazon. Hence the river Amazon. This is the region of heavy rainfall. Back home we consider an inch of rainfall a heavy shower. It would be only a sprinkle in this country where the average annual rainfall is more than one inch a day and where ten or twelve inches of rain are not uncommon.

We had been gone a month and had traveled about five thousand miles on the Amazon and its tributaries; and, having exhausted the limit of our vacation, we returned to Para and there took a steamer for New York. Although too brief, our Amazon trip was the best vacation either of us had ever had.

—From *River Journeys.*

HELPS TO STUDY

1. Organize all the facts relating to the Amazon River, and be ready to give a "Travel Talk" to your class. Use your outline, your map, and pictures in your presentation. 2. Decide through discussion what the advantages of such a trip must be.

a. What knowledge is gained that is useful?

b. What will be the feeling toward the people and in what ways will it be helpful?

c. What effect would such a trip have on what a person may do, as to his reading, writing, etc.

3. If you have "read between the lines" other problems have come to your mind, such as, "In what respect is the Amazon a giant among rivers?" "Why do we import rubber from there?" "Why are we so interested in South America at this time?"

Other Selections: Stories of South America, BROOKS; CARPENTER; CHAMBERLAIN; *Our American Neighbors,* COE.

HARE AND HOUNDS

This is an old, English school game. If you were suddenly called upon to tell a group of boys and girls how to play it, could you respond?

Tom was passing through the Hall after dinner when he was hailed with shouts from Tadpole and several other frogs seated at a long table, "Come and help us tear up scent."

Tom approached the table and found the party engaged in tearing up old newspapers, copy books, and magazines into small pieces with which they were filling four large canvas bags.

"It's the turn of our house to find scent for Big-side Hare and Hounds," exclaimed Tadpole. "Tear away, there's no time to lose before roll call."

"I think it's a great shame," said another small boy, "to have such a hard run on the last day."

"Which run is it?" said Tadpole.

"Oh, the Barley run, I hear," answered the other; "nine miles at least and hard ground."

"Well I'm going to have a try," said Tadpole.

"I should like to try, too," said Tom.

After calling over, there were two boys at the door calling out, "Big-side Hare and Hounds meet at White Hall"; and Tom, having girded himself with leather straps and left all extra clothing behind,

set off for White Hall, with East, whom he had persuaded to join.

At the meet they found some forty or fifty boys, and Tom felt sure, from having seen many of them run at football, that he and East were more likely to get into the run than they.

After a few minutes waiting, two well-known runners, chosen from the hares, buckled on the four bags filled with scent, compared their watches with those of Young Brooke and Thorne, and started off at a long swinging trot across the fields in the direction of Darby.

Then the hounds clustered around Thorne, who explained shortly, "They're to have six minutes start. Everyone who comes in within a quarter of an hour of the hares will be counted, if he has been round Darby church."

Then comes a minute's pause or so, and then the watches are pocketed and the pack led through the gateway into the field which the hares first crossed. Here they break into a trot, scattering over the field to find the first traces of the scent which the hares throw out as they go along. In a minute a cry of "forward" comes from one of them, and the whole pack quickening their pace make for the spot, while the boy who hit the scent first and the two or three nearest to him are over the first fence and into the long grass field beyond.

Tom, East, and the Tadpole had a good start and are well up to the front for such young hands. They

have come a mile and a half in about eleven minutes, a pace which shows that it is the last day.

About twenty-five of the original starters only show here, the rest already having fallen out. Then comes the cry of "forward" again, and the pack settles down to work again steadily and doggedly.

Ill fares it now with our youngsters. However, they struggle along, Tom and East pretty close and Tadpole thirty yards behind.

Now comes a brook with stiff clay banks from which they can hardly drag their legs, and they hear faint cries for help from the wretched Tadpole who has fairly stuck fast. But they have too little run left in them to pull up for their own brothers. Three fields more, and another check, and then "forward" called away to the extreme right.

The two boys' souls die within them. They can never do it. "Hang it all!" broke out East, as soon as he had got wind enough, pulling off his hat and mopping at his face, "I told you how it would be. Here we are dead beat, and yet I know we're close to the run-in, if we only knew the country."

"Well," said Tom, mopping away and gulping down his disappointment, "it can't be helped. We did our best anyhow. Hadn't we better go down this lane?"

"I suppose so," grunted East.

So they turned back slowly and sorrowfully and went limping down the lane. The evening closed in fast, and clouded over, dark, cold, and dreary.

"I say, it must be locking-up time," remarked East, breaking the silence; "it's so dark."

"What if we're late?" said Tom. "No tea, and sent up to the Doctor," (Principal) answered East.

Presently a faint halloo was heard from an adjoining field, then over a gate crawled the wretched Tadpole. He had lost a shoe in the brook and had been groping after it to his elbows in the stiff wet clay. A more miserable creature seldom is seen.

Notwithstanding, the sight of him cheered them, for Tadpole was some degrees more wretched than they. And so in better heart the three splashed painfully down the never-ending lane and came to the turnpike road. Luckily a coach came lumbering by, and the old coachman agreed to take them in for a shilling. They sat on the back seat, drubbing with their heels and chattering with the cold, and jogged into Rugby some forty minutes after locking-up time.

The first thing they light upon is old Thomas the watchman ambling along, candle in one hand and keys in the other. "Ah! East, Hall, and Brown, late for locking-up. Must go up to the Doctor's study at once."

"Mayn't we go and wash first? You can put down the time you know.

"Doctor's study directly you come in—that's the orders," replied old Thomas motioning toward the stairs.

"Who'll go in first?" inquires Tadpole. "Here,

Brown, you're the show-figure, you must lead."

His first hesitating knock was unanswered, but at the second, the Doctor's voice said "Come in," and Tom and the others sidled into the room.

"Well, my little fellows," began the Doctor, "what makes you so late?"

"Please, sir, we've been out playing Hare and Hounds and lost our way."

"Ha! you couldn't keep up, I suppose. You are too young to try such long runs. Well, now run upstairs all three of you and get clean things on and then tell the housekeeper to give you some tea. Good-night."

"Good-night, sir," and away scuttled all three.

"What a brick, not to give us even twenty lines to learn," said Tadpole.

Half an hour afterwards they were sitting by the fire in the housekeeper's room, at a tea, with cold meat, "twice as good grub as we should have got in the Hall," as the Tadpole remarked. All their grievances were forgotten and they were thinking Hare and Hounds the most delightful of games.

—*Thomas Hughes.*

In *Tom Brown's School Days.*

Helps to Study

1. Make an outline which gives the plan for the game.
2. Find three word pictures in the story and describe them.
3. List the hard words in phrases and find meanings, as—tear up *scent*, *buckled* on the bags, *girded* himself, etc.

Other Selections: Two Little Knights of Kentucky, Johnston.

AIR PRESSURE

Does a balloon explode if it goes high in the air?
What is suction?
Why does soda water run up a straw when you draw on the straw?
Why will evaporated milk not flow freely out of a can in which there is only one hole?
Why does water gurgle when you pour it out of a bottle?

We are living in a sea of compressed air. Every square inch of our bodies has about fifteen pounds of pressure against it. The only reason we are not crushed is that there is as strong pressure inside of our bodies pushing out as there is outside pushing in. There is compressed air in the blood and all through the body. If you were to lie down on the ground and have all the air pumped out from under you, the air above would crush you as flat as a pancake. You might as well let a dozen big farm horses trample on you, or let a huge elephant roll over you, as let the air press down on you, if there were no air underneath and inside your body to resist the pressure from above. It is hard to believe that the air and liquids in our bodies are pressing out with a force great enough to resist this crushing weight of air. But if you were suddenly to go up above the earth's atmosphere, or if you were to stay down here and go into a room from which the air were to be pumped

all at once, your body would explode like a torpedo.

When you suck the air out of a bottle, the surrounding air pressure forces the bottle against your tongue; if the bottle is a small one, it will stick there. And the pressure of the air and blood in your tongue will force your tongue down into the neck of the bottle from which part of the air has been taken.

In the same way, when you force the air out of a rubber suction cap, such as is used to fasten reading lamps to the head of a bed, the air pressure outside holds the suction cap tightly to the object against which you first pressed it, making it stick there.

We can easily experiment with air pressure because we can get almost entirely rid of it in places and can then watch what happens. A place from which the air is practically all pumped out is called a vacuum. Here are some interesting experiments that will show what air pressure does:

Experiment 1. Hold a burned-out electric lamp in a basin of water, break its point off, and see what happens.

All the common electric lamps (less than seventy watts) are made with vacuums inside. The reason for this is that the fine wire would burn up, if there were any air in the lamps. When you knock the point off the lamp, it leaves a space into which the water can be pushed. Since the air is pressing hard on the surface of the water, except in the one place where there is the vacuum in the lamp globe, the water is forced violently into this empty space.

It really is a good deal like the way mud comes up between your toes when you are barefoot. Your foot is pressing on the mud all around except in the spaces between your toes, and so the mud is forced up into these spaces. The air pressure on the water is like your foot on the mud, and the space in the lamp globe is like the space between your toes. Since wherever there is air, it is pressing hard, the only space into which it can force water or anything else is into a place from which all the air has been removed, like the inside of the lamp globe.

The reason that the water does not run out of the globe is this: the hole is too small to let the air squeeze up past the water, and therefore no air can take the place of the water that might otherwise run out. In order to flow out, then, the water would have to leave an empty space or vacuum behind it, and the air pressure would not allow this.

Why water gurgles when it pours out of a bottle. You have often noticed that when you pour water out of a bottle, it gurgles and gulps instead of flowing out evenly. The reason for this is that when a little water gets out and leaves an empty space behind, the air pushing against the water starts to force it back up; but since the mouth of the bottle is fairly wide, the air itself squeezes past the water and bubbles up to the top.

Experiment 2. Put a straw or piece of glass tube down into a glass of water. Hold your finger tightly over the upper end, and lift the tube out of the water.

Notice how the water stays in the tube. Now remove your finger from the upper end.

The air holds the water up in the tube because there is no room for it to bubble up into the tube to take the place of the water; and the water, to flow out of the tube, would have to leave a vacuum, which the air outside does not allow. But when you take your finger off the top of the straw or tube, the air from above takes the place of the water as rapidly as it flows out; so there is no tendency to form a vacuum, and the water leaves the tube. Now do you see why you make two holes in the top of a can of evaporated milk when you wish to pour the milk out evenly?

Experiment 3. Lay a rubber tube flat in the bottom of a pan of water, so that the tube will be filled with water. Let one end stay under water, but pinch the other end tightly shut with your thumb and finger and lift it out of the pan. Lower this closed end into a sink or empty pan that is lower than the pan of water. Now stop pinching the tube shut. This device is called a siphon.

—*C. W. Washburne,*

From *Washburne's Common Science, Copyright 1920, By World Book Company, Yonkers-on-Hudson, New York.*

HELPS TO STUDY

1. What is meant by "compressed air?" 2. What would cause our bodies to explode like a balloon? What have you heard about those who fly in aeroplanes? 3. What makes a small bottle stick to your tongue? Try it and see. 4. What is the meaning of the following words: *suction* cap; *vacuum*; *siphon?*

DON QUIXOTE

Don Quixote is one of the famous stories written by a Spanish author, Cervantes. You may like this selection so very much that it will whet your appetite for the book itself. Read this much carefully and decide whether it is a true story of a knight or just a merry jest.

Once upon a time there lived in a certain village in a province of Spain, called the Mancha, a gentleman named Quixada, whose house was full of old lances, halberds, and such other armors and weapons. He was, besides, the owner of an ancient target, or shield, a raw boned steed, and a swift greyhound.

He was about fifty years old, a strong, hard-featured man with a withered face. He was an early riser, and had once been very fond of hunting. But now for a great portion of the year he applied himself wholly to reading the old books of knighthood, and neglected all household matters. Moreover, his madness and folly grew to such a pitch that he sold many acres of his lands to buy books of the exploits and adventures of the knights of old. So eagerly did he plunge into the reading of these books that he many times spent whole days and nights poring over them; and in the end, through little sleep and much reading, his brain became tired and he fairly lost his wits.

Finally he was seized with one of the strangest whims that ever madman stumbled on in this world. It seemed to him right and necessary that he himself should become a knight-errant, and ride through the world to seek adventures and to practice in person all that he had read about the knights of old. Therefore, he resolved that he would make a name for himself by avenging the injuries of others, and by courting all manner of dangers and difficulties, until in the end he should be rewarded for his valor in arms by the crown of some mighty empire.

First of all, he caused certain old rusty arms that belonged to his great-grandfather to be brought out and well scoured.

He next considered his horse, which, though having nothing but skin and bone, yet seemed to him a better steed than Bucephalus, the noble animal that carried Alexander the Great when he went to battle. He spent four days inventing a name for his horse, saying to himself that it was not fit that so famous a knight's horse, and so good a beast, should want a name. Seeing that his lord and master was going to change his calling, it was only right that the horse should have a new name, famous and high-sounding, and worthy of his new position in life. He finally hit upon Rozinante, a name in his opinion sublime and well-sounding.

Having thus given a suitable name to his horse, he made up his mind to give himself a name also, and in that thought he labored another eight days.

Finally he determined to call himself Don Quixote. Then remembering that the great knights of olden time were not satisfied with a mere dry name, but added to it the name of their kingdom or country, he added to his own that also of his province, and called himself Don Quixote of the Mancha.

By fair words and promises he persuaded a certain laborer, his neighbor, an honest man but one of very shallow wit, to go away with him and serve him as squire. Don Quixote, among other things, told the poor fellow that he ought to be very much pleased to depart with him, for at some time or other an adventure might befall which should in the twinkling of an eye win him an island and leave him governor thereof. On the faith of these and other like promises, Sancho Panza (for so he was called) forsook his wife and children and took service as squire to his neighbor.

Don Quixote then set about to provide himself with money. This he did by selling one thing and pawning another, making bad bargains all around. At last he got a pretty sum, and having patched up his armor as best he could, he told Sancho Panza the day and hour on which he meant to start. He also charged him to provide himself with a wallet, which Sancho promised to do, and the squire added that he meant to take a very good donkey named Dapple along with him because he was not used to travel much afoot.

In the matter of the donkey, Don Quixote hesi-

tated a little, calling to mind whether he had read that any knight-errant was ever attended by a squire mounted on a donkey, but no such case occurred to his memory. Nevertheless he decided that the donkey should be taken, with the intention of providing his squire with a more dignified mount, when he had a chance, by unhorsing the first discourteous knight he met.

All this being arranged, Sancho Panza, without bidding his wife and children farewell, and Don Quixote, without saying good-bye to his housekeeper and niece, sallied forth from the village one night, unnoticed by any living person.

THE ADVENTURE WITH THE WINDMILLS

Whilst they were journeying along, Sancho Panza said to his master, "I pray you have good care, Sir Knight, that you forget not the government of the island which you have promised me, for I shall be able to govern it, be it ever so great."

And Don Quixote replied, "Thou must understand, friend Sancho, that it was the custom very much used by ancient knights-errant, to make their squires the governors of the islands and kingdoms they conquered, and I am resolved that so good a custom shall be kept up by me. And if thou livest and I live, it may well be that I might conquer a kingdom within six days, and crown thee king of it."

"By the same token," said Sancho Panza, "if I were a king, then should Joan my wife become a

queen and my children should all become princes?"

"Who doubts of that?" said Don Quixote.

"That do I," replied Sancho Panza, "for I am fully persuaded that though it rained kingdoms down upon the earth, none of them would sit well on my wife Joan. She is not worth a farthing for a queen. She might scrape through as a countess, but I have my doubts of that."

As they were talking, they caught sight of some thirty or forty windmills on a plain. As soon as Don Quixote saw them, he said to his squire, "Fortune is guiding our affairs better than we could desire. For behold, friend Sancho, how there appear thirty or forty monstrous giants with whom I mean to do battle, and take all their lives. With their spoils we will begin to be rich, for this is fair war, and it is doing great service to clear away these evil fellows from off the face of the earth."

"What giants?" said Sancho amazed.

"Those thou seest there," replied his master, "with the long arms."

"Take care, sir," cried Sancho, "for those we see yonder are not giants but windmills, and those things which seem to be arms are their sails, which being whirled around by the wind make the mill go."

"It is clear," answered Don Quixote, "that thou art not yet experienced in the matter of adventures. They are giants, and if thou art afraid, get thee away home, whilst I enter into cruel and unequal battle with them."

So saying, he clapped spurs to Rozinante, without heeding the cries by which Sancho Panza warned him that he was going to encounter, not giants, but windmills. He would neither listen to Sancho's outcries, nor mark what he said, but shouted to the windmills in a loud voice, "Fly not, cowards and vile creatures, for it is only one knight that assaults you!"

A slight breeze having sprung up at this moment, the great sail-arms began to move. On seeing this, Don Quixote shouted out again, "Although you should wield more arms than had the Giant Briareus, I shall make you pay for your insolence!"

Covering himself with his buckler and setting his lance in rest, he charged at Rozinante's best gallop and attacked the first mill before him. As he thrust his lance through the sail, the wind turned it with such violence that it broke his weapon into shivers, carrying him and his horse after it; and having whirled them around, finally tumbled the knight a good way off and rolled him over the plain sorely damaged.

Sancho Panza hastened to help him as fast as his donkey could go. When he came up, he found the knight unable to stir, such a shock had Rozinante given him in the fall.

"Bless me," said Sancho, "did I not tell you that you should look well what you did, for they were none other than windmills, nor could any think otherwise unless he had windmills in his brains?"

"Peace, friend Sancho," said Don Quixote, "for the things of war are constantly changing. I think this must be the work of some evil spirit who hath changed these giants into windmills to take from me the glory of the victory. But in the end, his evil arts shall avail but little against my good sword."

"May it prove so," said Sancho, as he helped his master to rise and remount Rozinante, who, poor steed, was himself much bruised by the fall.

When at last the knight had sufficiently recovered, the adventurers proceeded on their journey. Happening upon some shade trees at the roadside, they decided to refresh themselves and pass the night beneath the wide-spreading branches.

—*Cervantes.*

Helps to Study

1. The story falls into three parts: (a) Quixada, his house and furnishings; (b) Sancho Panza, the servant or squire; and (c) The adventure with the windmills. Use these three headings, and outline *details* under each as you read. 2. Where do you sense the humor of the situation? Do you know of any one who "rides the donkey" because some one holds up glittering prospects? 3. Why did neither of the men bid their families good-bye?

Things to Do

1. Use your dictionary for such words, as, halberd, valor, sublime, surname, wallet.

Other Selections: Adventures of Don Quixote, Cervantes; *Don Quixote for Boys and Girls*, Baldwin; *Legend of Sleepy-Hollow*, Irving; *Adventures of Baron Munchausen; Arabian Nights*; *The Houseboat on the Styx*, Bangs.

THE LAST LESSON

How would you feel if your teacher were to tell you that after to-day all your lessons would be taught in a foreign tongue? Would not the English language seem more precious to you than gold? This is what happened in Alsace and Lorraine nearly fifty years ago. In a war between France and Germany (called the Franco-Prussian War) France was defeated and forced to sign a humiliating treaty. One of the terms of the treaty was that the provinces Alsace and Lorraine, should belong to Germany. This story describes the day when it was forbidden to teach French in the schools. You will be glad to know that during the Great War, when the Germans were driven out of Alsace, French was again taught in the schools, where for nearly fifty years it had been forbidden. At the end of the Great War Alsace and Lorraine were given back to France.

I started for school very late that morning and was in great dread of a scolding, especially because Monsieur Hamel had said that he would question us on participles, and I did not know the first word about them. For a moment I thought of running away and spending the day out of doors. It was so warm, so bright! The birds were chirping at the edge of the woods; and in the open field back of the saw-mill the Prussian soldiers were drilling. It was all much more tempting than the rule for participles, but I had the strength to resist, and hurried along.

When I passed the town hall, there was a crowd in front of the bulletin board. For the last two years all our bad news had come from there—the lost battles, the draft, the orders of the commanding officer—and I thought to myself, without stopping:

"What can be the matter now?"

Then, as I hurried by as fast as I could go, the blacksmith, Wachter, who was there with his apprentice, reading the bulletin, called after me:

"Don't go so fast, bub; you'll get to your school in plenty of time!"

I thought he was making fun of me, and reached Monsieur Hamel's little garden all out of breath.

Usually, when school began, there was a great bustle, which could be heard out in the street, the opening and closing of desks, lessons repeated in unison, very loud, with our hands over our ears to understand better, and the teacher's great ruler rapping on the table. But now it was all so still! I had counted on the commotion to get to my desk without being seen; but, of course, that day everything had to be as quiet as Sunday morning. Through the window I saw my classmates, already in their places, and Monsieur Hamel walking up and down with his terrible iron ruler under his arm. I had to open the door and go in before everybody. You can imagine how I blushed and how frightened I was.

But nothing happened. Monsieur Hamel saw me and said very kindly:

"Go to your place quickly, little Franz. We were beginning without you."

I jumped over the bench and sat down at my desk. Not till then, when I had got a little over my fright, did I see that our teacher had on his beautiful green coat, his frilled shirt, and the little black silk cap, all embroidered, that he never wore except on inspection and prize days. Besides, the whole school seemed so strange and solemn. But the thing that surprised me most was to see, on the back benches that were always empty, the village people sitting quietly like ourselves; old Hauser, with his three-cornered hat, the former mayor, the former postmaster, and several others besides. Everybody looked sad, and Hauser had brought an old primer, thumbed at the edges, and he held it open on his knees with his great spectacles lying across the pages.

While I was wondering about it all, Monsieur Hamel mounted his chair, and, in the same grave and gentle tone which he had used to me, he said:

"My children, this is the last lesson I shall give you. The order has come from Berlin to teach only German in the schools of Alsace and Lorraine. The new master comes to-morrow. This is your last French lesson. I want you to be very attentive."

What a thunder-clap these words were! Oh, the wretches; that was what they had put up at the town hall!

My last French lesson! Why, I hardly knew how to write! I should never learn any more! I must

stop there, then! Oh, how sorry I was for not learning my lessons, for seeking birds' eggs, or going sliding on the Soar! My books, that had seemed such a nuisance a while ago, so heavy to carry, my grammar, and my history of the saints, were old friends now that I couldn't give up. And Monsieur Hamel, too; the idea that he was going away, that I should never see him again, made me forget all about his ruler and how cranky he was.

Poor man! It was in honor of this last lesson that he had put on his fine Sunday clothes, and now I understood why the old men of the village were sitting there in the back of the room. It was because they were sorry, too, that they had not gone to school more. It was their way of thanking our master for his forty years of faithful service and of showing their respect for the country that was theirs no more.

While I was thinking of all this, I heard my name called. It was my turn to recite. What would I not have given to be able to say that dreadful rule for the participle all through, very loud and clear, and without one mistake? But I got mixed up on the first words and stood there, holding on to my desk, my heart beating, and not daring to look up. I heard Monsieur Hamel say to me:

"I won't scold you, little Franz; you must feel bad enough. See how it is! Every day we have said to ourselves: 'Bah! I've plenty of time. I'll learn it to-morrow.' And now you see where we've come out. Ah, that's the great trouble with Alsace; she puts off

learning till to-morrow. Now those fellows out there will have the right to say to you: 'How is it; you pretend to be Frenchmen, and yet you can neither speak nor write your own language?' But you are not the worst, poor little Franz. We've all a great deal with which to reproach ourselves.

"Your parents were not anxious enough to have you learn. They preferred to put you to work on a farm or at the mills, so as to have a little more money. And I? I've been to blame also. Have I not often sent you to water my flowers instead of learning your lessons? And when I wanted to go fishing, did I not just give you a holiday?"

Then, from one thing to another, Monsieur Hamel went on to talk of the French language, saying that it was the most beautiful language in the world—the clearest, the most logical; that we must guard it among us and never forget it, because when a people are enslaved, as long as they hold fast to their language it is as if they had the key to their prison. Then he opened a grammar and read us our lesson. I was amazed to see how well I understood it. All he said seemed so easy, so easy! I think, too, that I had never listened so carefully, and that he had never explained everything with so much patience. It seemed almost as if the poor man wanted to give us all he knew before going away, and to put it all into our heads at one stroke.

After the grammar, we had a lesson in writing. That day Monsieur Hamel had new copies for us,

written in a beautiful round hand: France, Alsace, France, Alsace. They looked like little flags floating everywhere in the schoolroom, hung from the rod at the top of our desks. You ought to have seen how every one set to work, and how quiet it was! The only sound was the scratching of the pens over the paper. Once some beetles flew in; but nobody paid any attention to them, not even the little ones, who worked right on tracing their fish-hooks, as if that was French, too. On the roof the pigeons cooed very low, and I thought to myself:

"Will they make them sing in German, even the pigeons?"

Whenever I looked up from my writing I saw Monsieur Hamel sitting motionless in his chair and gazing first at one thing, then at another, as if he wanted to fix in his mind just how everything looked in that little schoolroom. Fancy! For forty years he had been there in the same place, with his garden outside the window and his class in front of him, just like that. Only the desks and benches had been worn smooth; the walnut trees in the garden were taller, and the hop vine that he had planted himself twined about the windows to the roof. How it must have broken his heart to leave it all, poor man; to hear his sister moving about in the room above, packing their trunks! For they must leave the country next day.

But he had the courage to hear every lesson to the very last. After the writing, we had a lesson in

history, and then the babies chanted their *ba, be, bi, bo, bu.* Down there at the back of the room old Hauser had put on his spectacles and, holding his primer in both hands, spelled the letters with them. You could see that he, too, was crying; his voice trembled with emotion, and it was so funny to hear him that we all wanted to laugh and cry. Ah, how well I remember it, that last lesson!

-Alphonse Daudet.

Helps to Study

1. Plan a movie. What settings or backgrounds will you need to make this "movie" successful? Write out in detail each one. 2. Illustrate or indicate in writing the number and appearance of each character or group. 3. Study the story closely to get each detailed movement so you can direct, assist, suggest, and criticize the "acting." 4. Possibly you think it might be well to have a "Prologue." Write in a short paragraph the reason for "The Last Lesson." 5. Possibly you think the "Scenario" would be improved by introducing the spoken words with the pantomime. Plan for different members to take reading parts. Select a judge to decide whether the reading and acting agree with each other as they should.

Things to Do

1. Suppose this was the last year you were to have English in the schools what would you plan to do? See *Our Mother Tongue,* Book V. 2. Make a collection of stories and poems in which there is a note of sadness, as "The Last Lesson," Daudet, "The Last Leaf," Beecher, etc. Use the same plan as that used in making a card catalogue, or bibliography, as—

Title	Author	Nature	Reference
"The Last Lesson"	Daudet	Prose	*Lincoln Rd.*, Book VI, p.
"The Last Leaf"	Beecher	Prose	*Child's Wd.*, Poulson, p.
"The Last Ride Together"	Browning	Poem	Browning's poems, p.

Word Study

Note to Pupil. The one reference book which you, as a pupil, will use most frequently is the dictionary. The Word List below is a sort of small dictionary and is intended to teach you how to use the large reference book. Only the more difficult words of The Sixth Reader are given. The correct pronunciation is indicated by the spelling inside the parenthesis. Your teacher will explain to you how to get the sound and the accent from this spelling. Many words have several meanings. In this Word List only the meaning used in this book is given. For other meanings, see the large dictionary.

Key to Sounds

ā as in *ate*	**ą as in *all***	**ĭ as in *it***	**ŭ as in *but***
ȧ as in *at*	**ē as in *eve***	**ō as in *vote***	**ū as in *churn***
â as in *dare*	**ĕ as in *set***	**ŏ as in *not***	**ў as in *lily***
ä as in *arm*	**ē as in *fērn***	**ô as in *for***	**o͞o as in *boot***
a as in *ask*	**ī as in *find***	**ū as in *use***	**o͝o as in *foot***
	ou as in *out*	**oi as in *oil***	

a

absolute (ab′sō-lūt), unlimited

accoutrements (ăk-ko͞o′tēr-ments), dress, trappings

aforesaid (ȧ-fōr′said), what has been said before

agonized (ăg′ō-nīzd′), suffering, pain

alfalfa (ăl-făl′fa), a kind of clover

allayed (ăl-lāyd′), mixed, impure

Alsace (ăl-säs′), a province of France

amateur (ăm′ȧ-tūr), a beginner

anaconda (ăn-ȧ-kŏn′dȧ), a huge snake

anemones (ȧ-nĕm-ō-nēz), a marine animal

anguish (ăng′gwish), pain of mind or body

Archimedes (ärk-ĭ-mē′dēz), a famous scholar

assay (ăs-sāy′), a trial

attested (ăt-tĕst′ed), approved, gave consent

b

baldric (bawl′drik), a broad belt across the shoulder

batten (băt′ten), to fasten with cleats

Baudwin (bōd′wĭn), a man's name

beholden (bē-hōld′ĕn), indebted to

behooves (bē-ho͞ovs′), necessary to do

biennial (bī-ĕn′nĭ-ăl), a two-year period

Bilbao (bĭl-bä′o), a city of Spain

blubber (blŭb′ber), flesh of whales

boded (bōd′ed), indicated, pointed to

bodice (bŏd′ĭs), a kind of waist

Bootes (bō-ē′tēz), a group of stars

botanical (bō-tăn′ĭ-kl), pertaining to plants

Briarius (brī-ā′rĭ-ŭs), a man's name

brindled (brĭn′dld), striped

buccaneer (bŭk′ȧ-nēr), a pirate

Bucephalus (bū-sĕf′ȧ-lŭs), Alexander's horse

bullion (būl′yŭn), metal for coins

c

cacao (kā-kā′ō), the cocoa tree
Caius (kā′ŭs), a man's name
calamity (kā-lăm′ĭ-ty), a terrible disaster
calculated (kăl′kū-lā-ted), estimated, figured out
carcass (kär′kăs), the body of a dead animal
canneries (kăn′nĕr-ēz), canning factories
carnage (kär′nāj), upheaval, destruction
Chickamauga (chĭck-a-maw′gà), a battle field
cilia (sĭl′ĭ-à), hair-like feelers
civilly (sĭv′ĭl-y), in a civil way, orderly
combatant (kŭm-băt′ănt), a fighter, opponent
commodity (kŭm-mŏd′ĭ-ty), an article of sale
community (kŭm-mū′nĭ-ty), a neighborhood or village
concave (kŏn′kāv), bending from you, as a concave eye-glass
conducive (kŏn-dū′sĭv), favorable
confidential (kŏn-fĭ-dĕn′shal), trusting, not to be repeated
constrictor (kŏn-strĭk′tŏr), a huge snake
contemptuously (kŏn-tĕmp′tū-ŭs-ly), in an unbecoming manner
co-operative (kō-ŏp′ē-rā-tĭv), working together
countenance (kown′tē-nanz), the face
crocus (krō′kŭs), a flowering plant
crustacean (krŭs-tā′shĭ-ăn), a shell-covered animal

d

declamatory (dē-klăm′ā-tō-ry), a recitation, "speaking pieces"
denizen (dĕn′ĭ-zen), inhabitant
destitute (dĕs′tĭ-tūt), hard up, in want
devastated (dĕv′ăs-tā-ted), laid waste
dexterity (dĕx-tĕr′ĭ-ty), skill, cleverness
discard (dĭs-kärd′), to throw away
dissolving (dĭs-sŏl′ving), changing a substance into a liquid form
distorted (dĭs-tōr′tĕd), changed into an unusual shape, exaggerated
disconsolately (dĭs-kŏn′sō-lāt-ly), without comfort
dislocated (dĭs′lō-kā-ted), out of joint
dominus (dŏm′ĭ-nŭs), a master
droughts (drowths), dry seasons

e

enthusiastic (ĕn-thū′zĭ-ăs-tĭk), eager, spirited
entrenched (ĕn-trenchd′), within ditches and breast-works
ermine (ēr′mĭn), fur
Etruria (ē-trū′rĭ-à), home of the Etruscans
extraordinary (ĕx-traw′dĭ-nā-ry), much beyond the ordinary

f

fabulous (făb′ū-lŭs), very great, beyond belief
fathom (făth′ŭm), six feet
Favosites (făv′ō-sī′tez), minute sea animals
fermented (fĕr-mĕnt′ed), turned sour
ferocity (fē-rŏs′-ĭ-ty), fierce, dangerous
feudal (fū′dle), pertaining to customs in the Middle Ages
focused (fō′kŭsd), fixed, adjusted
form (form), a grade in an English school
fostered (fŏs′tĕr′d), cared for, nourished
functions (fŭnk′shŭns), the work of the body

futility (fū-tĭl'ĭ-ty), uselessness

g

geological (jē-ō-lŏj'ĭ-kl), pertaining to rocks
gie (gē), give
gills (gĭls), the breathing organs of fish
glade (glād), a glen or open space
gleam (glēm), light
Gloucester (glow'stēr), a city
gowd (gowd), gold, real worth
granary (grăn'ā-ry), a bin for grain
gravity (grăv'ĭ-ty), the force that pulls objects down
gree (grē), a prize or favor
grotesque (grō-tesk'), ridiculous
guimpe (gĭmp), part of a dress

h

hamely (hām'ly), homely
haunches (hän'chĭz), hind legs
heathen (hē'thĕn), non-christian people
hemorrhage (hĕm'ō-raj), a bleeding
Hermes (hēr'mēz), a Greek god
Hiero (hī'ē-rō), a King of Sicily
hodden (hŏd'dĕn), coarse wool
Hormuz (hōr'mŭz), a city of Persia
humiliated (hū-mĭl'ĭ-ā-ted), humbled, laid low
husbandman (hŭz'bănd-măn), a farmer

i

impart (ĭm-part'), to instruct
impending (ĭm-pĕnd'ĭng), threatening
impertinence (ĭm-pēr'tē-nĕnz), impudence
impostor (ĭm-pŏs'tōr), one who deceives
impossibility (ĭm-pŏs-i-bĭl'ĭ-ty), a thing not possible
impracticable (ĭm-prăk'tĭk-ā-ble), not easily done
Inca (ĭnk'ā), an Indian chief, or king
incautiously (ĭn-kaw'shŭs-ly), without due care
incentive (ĭn-sĕn'tĭv), motive or reward
incessantly (ĭn-sĕs'ănt-ly), constantly
incredulous (ĭn krĕd-ū-lŭs), not believable
inconceivable (ĭn-kŏn-sēv'ā-ble), not thinkable
infraction (ĭn-frăk'shŭn), a breaking of a rule
inherited (ĭn-hēr'ĭ-ted), handed down
inspiration (ĭn-spĭ-rā'shun), a new thought
intercept (ĭn-tēr-sĕpt'), to overtake
internecine (ĭn-tēr-nē'sĭn), deadly to each side

j

Jacquard (jăk'ärd), a man's name
jousting (jo͞os'ting), a game played by Knights

k

Kahn (kŏn), the Emperor of China
komatik (kŏm'ă-tĭk), a dog sled

l

laboratory (lăb'ō-rā-tō-ry), a room for experiments
leisure (lē'zhur), the free hours, a vacation
Lepus (lē'pŭs) a species
licorice (lĭk'ō-rĭs), a kind of candy
likenesses (līk'nĕs-ĕz), pictures
llama (lä'ma), the camel of South America
locomotive (lō-kō-mō'tĭv), a railway engine
logical (lŏg'ĭ-kl), set in order
Lorraine (lōr-rān'), a province of France
lyre (līr), a musical instrument

m

magistrate (măj'ĭs-trāt), an officer or ruler
Mancha (măn'shä), a province of Spain
mechanics (mē-kăn'ĭks), pertaining to machinery
menacing (mĕn'ā-sing), threatening
meteoroids (mē'tē-ōr-oids), shooting stars
microscope (mī'krō-skōp), a magnifying instrument
miscellaneous (mĭs-sĕl-lā'nē-ŭs), various, mixed
mischievous (mĭs'chĭ-vŭs), given to mischief
mistletoe (mĭs''l-toe), a green vine
moccasin (mŏk'ă-sĭn), an Indian shoe
mollusks (mŏl'lŭsks), water animals having shells
Monterey (mŏn-tē-rā'), a city
mortification (mŏr-tĭ-fĭ-kā'shun), keen disappointment, chagrin
Mucius (mū'sĭ-ŭs), a man's name
mullein (mŭl'lĭn), a coarse-leafed plant

n

neutralize (nū'trăl-īz), to set at naught, to have no effect
nobles (nō'bls), old English money

o

obviously (ŏb'vĭ-ŭs-ly), perfectly clear
odorous (ō'dĕr-ŭs), having a bad smell
obscure (ŏb-skūr'), not clear and distinct
Orion (ō-rī'ŭn), the name of a star
ornamental (ōr-nā-mĕn'tle), having ornaments or decorations

p

pageant (păj'ĕnt), a grand parade or show
Pasteur (pȧs-tūr'), a man's name
pathetic (pā-thĕt-ik), sad, pitiful
Patroclus (pȧ-trō'klŭs) a Greek hero
Pelotas (pē-lō'tis), a city
Pendragon (pĕn-drăg'ŭn), a man's name
Penelope (pē-nĕl'ō-pē), a woman's name
penetrating (pĕn'ē-trāt-ing), piercing, thrust through
perceptible (pēr-sĕp'tĭ-ble), easily seen
perennials (pēr-ĕn'nĭ-ălls), every-year plants
perpetual (pēr-pĕt'ū-ăl), standing forever
perplexity (pēr-plĕx'ĭ-ty), trouble, anxiety
pestiferous (pĕs-tĭf'ēr-ŭs), of the nature of a pest
petrified (pĕt'rĭ-fīd), turned to stone
phosphorescent (fŏs-for-ĕs'ĕnt), capable of giving off light
pincers (pĭnch'ĕrs), the large arms of the crawfish
Porsena (pōr'sē-nȧ), the Etruscan leader
precautions (prē-kaw'shŭns), extra care
precipitous (prē-sĭp'ĭ-tŭs), steep, dangerous
Pribilof (prēb-ĭ-lŏf'), the name of a group of islands
prodigious (prō-dij'ŭs), large, extraordinary
professionals (prō-fĕs'shŭn-ălls), paid players
propagated (prŏp'ă-gā-ted), increased, hatched
prophecy (prŏf'ĕ-sy), a prediction, as to foretell
prospector (prŏs'pĕk-tōr), a gold-seeker

provost (prōv′ōst), the chief office.
prowess (prow′ĕs), skill, ability
pulsated (pŭl′sāt-ed), throbbed, as of an engine

q

quarry (kwär′ry), hunted birds or animals
quartz (kwärtz), a kind of rock
quiddit (kwĭd′dĭt), to trifle
quintals (kwĭn′tals) seeds or weights

r

receptacle (rē-sĕp′tȧ-kl), a vessel for holding water
rectangle (rĕk′tăng-gl), a figure having four equal angles
reluctance (rē-lŭk′tanz), unwillingness
reproach (rē-prōch′), blame or fault
resentment (rē-zĕnt′ment), offense
resigned (rē-zīnd′), given up, disappointed
revere (rē-vēr′), respect and honor
Rozario (rō-zȧr′ĭ-ō), a horse's name
Rozinante (rō-zĭ-nȧn′tĭ), a horse's name

s

sae (sā), so
Sancho (sănk′ō), a servant's name
scent (sĕnt), bits of paper
scuttled (skŭt′tld), hidden, sunk
secede (sē-sēd′), to withdraw
seneschal (sĕn′ĕ-shăl), an overseer or governor
Sierra (sĭ-ĕr′rȧ), a mountain range
siphon (sī′fŭn), a u-shaped tube
spawn (spawn), to lay eggs
stampede (stăm-pēd′), cattle or other animals frightened into running away
substantial (sŭb-stăn′shăl), strong, reliable

t

Titania (tī-tā′nĭ-ä) queen of fairies
tournament (tūr′nȧ-ment), a series of games, a mock fight
transformation (trănsfōr-mā′shŭn), a change to another form
tremendous (trē-mĕn′dŭs), very large
triangular (trī-ang′ŭ-lȧr), a figure of three sides
trillium (trĭl′lĭ-ŭm), a wild flower
triumph (trī′ŭmpf), a victory
tulle (to͞ol), a kind of cloth

u

Ulfius (ŭl′fĭ-ŭs), a man's name
Ulysses (ū-lĭs′sēz), a Greek hero
undetermined (ŭn-dē-tēr′mĭn′d), unsettled or unknown
unparalleled (ŭn-păr′ăl-lĕl′d), beyond comparison
Uther (ū′ther), a man's name

v

vacuum (văk′ū-ŭm), a vessel freed of air
vandalism (văn′dle-ĭsm), petty thievery or destruction of property
variegated (vā′rĭ-ē-gā-ted), of different colors
velocity (vē-lŏs′ĭ-ty), speed, rate of movement.
vestal (vĕs′tȧl), Roman maidens
voluntarily (vŏl-ŭn-tā′rĭ-ly), willingly

w

wha (whȧ), who

y

yeomen (yō′men), bowmen of early England